Technical Memorandum 104820

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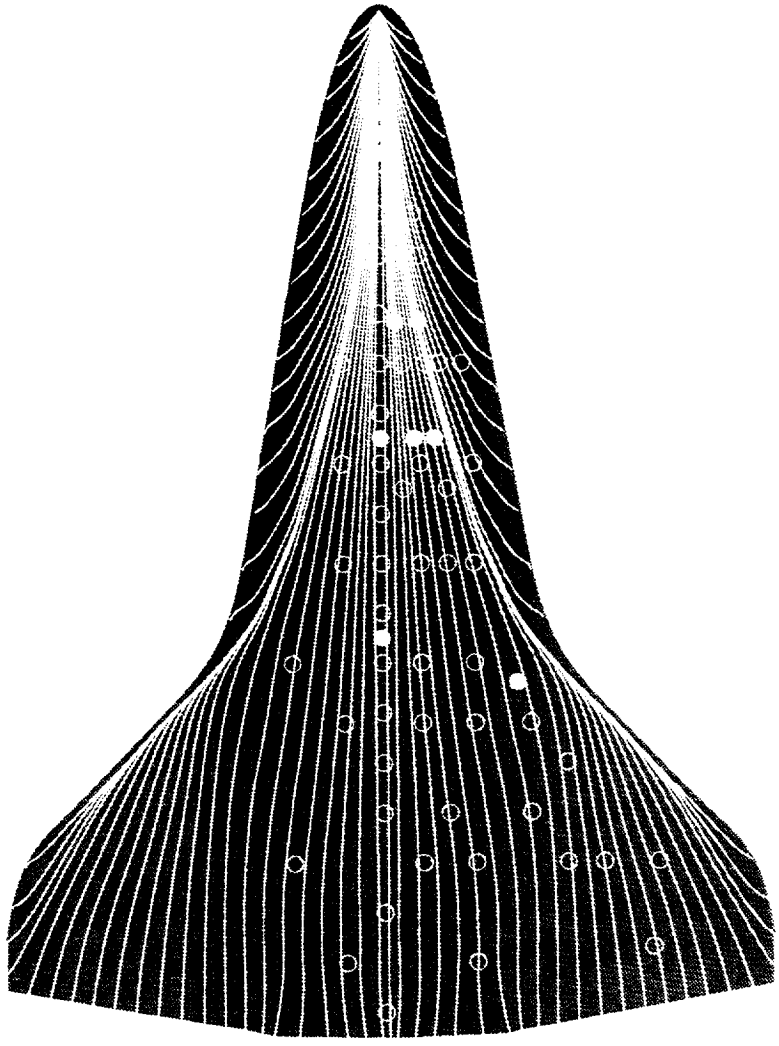

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CONTENTS

	Page
ABSTRACT	vi
INTRODUCTION	1
TEST FACILITY	1
TEST CONDITIONS	1
MODEL DESCRIPTION	1
MODEL NOMENCLATURE	2
INSTRUMENTATION	2
Model Instrumentation	2
Facility Measurements	3
LN_2 COOLING FIXTURE	3
Fixture Description	3
LN_2 Operating Procedures	4
DATA REDUCTION	5
Tunnel Conditions	5
Data Nomenclature	5
Tabulated Values	6
Plotted Data	6
ASCII Data Files	6
Equations and Methods	7
Average Surface Temperature	10
Measurements Uncertainties	10
OPERATIONS	10
DATA PRESENTATION AND RESULTS	13
Overview of Test Data	13
Shock Interference Effect	13
Smooth Body Transition Data	15
Roughness Element Transition Data	16
Oil Flow Data	18
Shadowgraph Data	18
Plotted and Tabulated Data	18
CONCLUSIONS	18
REFERENCES	19

CONTENTS
(continued)

		Page
FIGURES		
1	AEDC Tunnel B Test Facility	20
2	Shuttle Orbiter Model 29-0 Test Configuration	21
3	Model Discrete Roughness Element Locations	22
4	Geometry of Typical Discrete Roughness Element	23
5	Geometry of Constantan-Chromel Coaxial Thermocouple Gages	24
6	Shuttle Orbiter Model 29-0 Coaxial Thermocouple Gage Locations	25
7	LN_2 Cooling Manifold	27
8	Example Plots of Windward Centerline and Span-Wise Theoretical (Laminar) and Data-Derived Heat Transfer Coefficients	29
9	Model Installation in AEDC Tunnel B Test Section	31
10	View of Upper Surfaces of Existing Original Model 29-0 Components	33
11	View of Lower Surfaces of Existing Original Model 29-0 Components	35
12	Installation of the LN_2 Cooling System	37
13	Cavity Induced Disturbance Locations at M =6.0 and Pt = 30	39
14	Installation Sketch of the Original Model Positions Within the AEDC Tunnel B Test Section	40
15	Installation Sketch of the Revised Model Position Within the AEDC Tunnel B Test Section	41
16	Effect of Freestream Reynolds Number on Smooth-Body Transition: Angle-of-Attack = 40°; TW/T0 = 0.4	42
17	Effect of Angle-of-Attack on Smooth-Body Transition: TW/T0 = 0.4	42
18	Effect of Wall Temperature on Smooth-Body Transition: Angle-of-Attack = 40°	43
19	Effect of Reynolds Number on Discrete Roughness Transition: Angle-of-Attack = 40°; TW/T0 = 0.4	43
20	Effect of Angle-of-Attack on Transition Due to Centerline Discrete Roughness (Location G): Reft = 1 x 106; TW/T0 = 0.4	44
21	Effect of Angle-of-Attack on Transition Due to Off-Centerline Discrete Roughness (Location C): Reft = 2 x 106; TW/T0 = 0.4	44
22	Effect of Angle-of-Attack on Transition Due to Off-Centerline Discrete Roughness (Location F): Reft = 2 x 106; TW/T0 = 0.4	45
23	Effect of Wall Temperature on Transition Due to Centerline Discrete Roughness (Location D): Angle-of-Attack = 40°	45
24	Effect of Roughness Height on Transition at Location A: Angle-of-Attack = 40°; Reft = 2 x 106; TW/T0 = 0.4	47

CONTENTS
(concluded)

		Page
FIGURES		
25	Effect of Roughness Height on Transition at Location G: Angle-of-Attack = 40°; Reft = 2 x 106; TW/T0 = 0.4	47
26	Effect of Roughness Location on Transition for Locations E and I: Angle-of-Attack = 40°; Reft = 2.5 x 106; TW/T0 = 0.4	48
27	Effect of Roughness Location on Transition for Locations J and K: Angle-of-Attack = 40°; Reft = 1.5 x 106; TW/T0 = 0.4	48
28	Oil Flow (Run 147): Reft = 2 x 106: Angle-of-Attack = 40°	49
29	Oil Flow (Run 148): Reft = 2 x 106: Angle-of-Attack = 40°	51
30	Run Number 27 Shadowgraph: Angle-of-Attack = 40°; Reft = 1.0 x 106; TW/T0 = 0.4	53
31	Run Number 37 Shadowgraph: Angle-of-attack = 40°; Reft = 2 x 106; TW/T0 = 0.4	54
TABLES		
1	Locations of Discrete Roughness Elements	55
2	Coaxial Gage Locations on Model 29-0	56
3	Windward Centerline Theoretical (Laminar) Heat Transfer Coefficients, as Provided to AEDC by NASA-JSC	57
4	Span-Wise Theoretical (Laminar) Heat Transfer Coefficients, as Provided to AEDC by NASA-JSC	58
5	Estimated of Data Uncertainties	59
6	As Run Test Matrix	61
7	Wind Tunnel Test Log	71
8	Summary of Good Data Runs	78
9	List of Runs Not Utilized and Reasons Why	82
APPENDIX A	Comparison of Predicted Laminar Heat Transfer Coefficient Distribution With MH-11 Measurements	A-1
APPENDIX B	Plotted Heat Transfer Coefficient Data	B-1
APPENDIX C	Tabulated Data	C-1

ABSTRACT

During the flight history of the Space Shuttle Orbiter, several flights have experienced earlier than expected laminar to turbulent boundary layer transition. Such an experience has often been asymmetric in nature, which results in unplanned control requirements and often higher localized heating. Typically, it was noted that evidence of roughness elements, such as thermal protection system (TPS) gap fillers protruding above the surrounding surface, was generally a common factor for the flights experiencing the unexpected early transition.

We conducted a test in the Arnold Engineering and Development Center's Von Karman Facility Tunnel B at a Mach number of 8.0 and over a Reynolds number range of 0.6 x 10^6/ft to 3.6 x 10^6/ft to determine the effect of specific discrete roughness element heights and locations on the transition of the Orbiter boundary layer from laminar to turbulent at various Reynolds numbers. We limited angle of attack to 35° and 40°, which are most representative of the flight experience. The test used Shuttle wind tunnel model 29-O, a 0.0175-scale Orbiter model, to which discrete roughness elements of various heights were added at specific locations on the model's windward surfaces, specifically the lower fuselage and wing. Model instrumentation consisted of 55 heat flux gages distributed over the windward surfaces.

The major objectives of the test were to verify that off-design changes, such as protuberances, to the TPS could cause roughness-induced early transition consistent with flight experience and to determine, at various Reynolds numbers, the size and location of discrete roughness elements that would cause early transition. Such test data could then be used for the future development of an Orbiter discrete roughness transition model.

Test results indicated that, while a single roughness element on the windward centerline near the nose region could induce early boundary layer transition over most of the windward surface, a single roughness element off to the side of the windward centerline could result in a turbulent boundary layer occurring on a major portion of one side of the windward surface with the other side remaining laminar. Both increasing the height of the roughness element on the windward centerline and cooling the model resulted in boundary layer transition at lower freestream Reynolds numbers.

INTRODUCTION

This report presents the results of wind tunnel test MH-11, which was conducted in the Arnold Engineering Development Center (AEDC) Von Karman Facility (VKF) Tunnel B during the week of June 5, 1995. The purpose of the test was to determine the effect of specific discrete roughness element heights and locations on the transition of the Orbiter boundary layer from laminar to turbulent at various Reynolds numbers. Three major objectives guided the planning of this test:

A) Verify that off-design changes to the Orbiter thermal protection system (TPS) can cause roughness-induced early transition consistent with flight experience.

B) Determine the size and location of discrete roughness elements that will cause early transition.

C) Use test data to develop an Orbiter discrete roughness transition model.

TEST FACILITY

The test facility, AEDC VKF Tunnel B shown in Figure 1, consists of a closed-circuit, continuous-flow, variable-density, 50-inch-diameter test section wind tunnel (Reference 1). Through the use of interchangeable axisymmetric contoured nozzles, test conditions at Mach numbers of 6 and 8 are realized. A model injection system allows the model to be removed from the test section while the tunnel remains in operation. Continuous operation of the tunnel with a range of pressure from 100 to 850 psia is possible with air supplied by the VKF main compressor plant. Stagnation temperatures sufficient to avoid air liquefaction in the test section (up to 1,350°R) are achieved from a natural gas combustion heater. Integral external water jackets cool the entire tunnel (throat, nozzle, test section, and diffuser).

TEST CONDITIONS

The test was run at a Mach number of 8.0 with Reynolds number varying from 0.6×10^6 per foot to 3.6×10^6 per foot. The model angle of attack was primarily set at 40°, with some data taken at an angle of attack of 35°.

MODEL DESCRIPTION

The model used in wind tunnel test MH-11 is designated as the Shuttle Orbiter model 29-O and is a 0.0175-scale representation of Orbiter configuration -140B. Figure 2 illustrates the nominal dimensions of the model.

Model 29-O is constructed of stainless steel and is designed to be sting-mounted in the wind tunnel. The model had previously been etched to simulate tiles over the windward surface; however, the model was modified for this test by smoothing the etched simulated tiles to a nominal height of 0.001 inches. For the purposes of this test, the vertical tail and orbital

maneuvering system pods were not included as components of the complete, as tested, wind tunnel model. A total of 48 stainless steel discrete roughness element inserts were manufactured for installation in 11 locations on the model lower surface. The inserts were constructed such that each represented either a smooth surface (zero roughness element height) or a specific discrete roughness element height. Table 1 and Figure 3 define the locations of the inserts and their element heights. Figure 4 presents the geometry of a typical discrete roughness element insert. Each insert was attached to the model surface with two recessed machine screws and the recesses were filled with dental plaster. During the test, the model was configured either with only smooth inserts or with smooth inserts in combination with either one or two discrete roughness element inserts.

MODEL NOMENCLATURE

The wind tunnel model 29-O dimensions nomenclature is as follows:

b	Wing span, 16.4 inches
BL	Y_0 coordinate in model scale (Buttock Line)
L	Reference body length, 22.58 inches
MS	X_0 coordinate in model scale (Model Station)
X	Longitudinal body axis
X_0	Full-scale Orbiter longitudinal axis coordinate
Y_0	Full-scale Orbiter lateral axis coordinate

The model 29-O component nomenclature is as follows:

B17	Fuselage body
C7	Canopy
F5	Baseline body flap
W103	Wing
P	Discrete roughness element insert

INSTRUMENTATION

Model Instrumentation

The model was instrumented with 55 coaxial thermocouple or heat flux gages and 4 standard thermocouple gages. The coaxial gages were used to measure the surface heat flux and were made from Constantan wire with a Chromel outer jacket, Figure 5. The gages were 0.0625 inches in diameter. Since the pre-drilled gage locations on the model were 0.125 inches in diameter, 0.123-inch-diameter Chromel sleeves were press fit on the gages. In order to inhibit extraneous thermoelectric emf generation, which can cause errors of up to 25%, as noted by Carl Kidd, et al. (Reference 2), the gages were cemented into the 55 predrilled 0.125-inch holes in the model using Ultrabond 552, a ceramic adhesive. This adhesive has well known high-temperature capabilities; however, for this test, because of the -320°F wall temperature requirement, we performed installation checkouts exposing the adhesive to the LN_2 with no issues encountered. After the gages were cemented into the model, they were smoothed

down flush to the model surface to within a ±0.001-inch tolerance. This smoothing, accomplished by abrading the surface with a light sandpaper, formed the thermocouple junction. Table 2 and Figure 6 define the gage locations.

Four standard thermocouples, Chromel-Alumel, were mounted inside the model to monitor the internal temperatures of the model as a check for model temperature uniformity before each run. The thermocouples were designated as TMOD1 through TMOD4 and were placed on the inside surface of the windward side of the model, along the centerline between coaxial gages 8 and 10, 16 and 29, 37 and 38, and 43 and 46, respectively.

The gages were sampled at 20HZ from start of insertion to 3 seconds after the model reached the test section centerline. However, for data processing, only the data obtained after the first second on centerline were used. We reduced the data using the assumption of a homogeneous, one-dimensional, semi-infinite solid to obtain the heat flux. A previous calibration of the gage material lumped thermal parameter, $\rho C_p k^{1/2}$, i.e., $(ROCK)^{1/2}$, was used for the temperature range tested (Reference 3). The maximum heat flux uncertainty was estimated to be 9% and 12% for hot and cold wall, respectively, for heat flux greater than 5 BTU/ft^2-sec.

Facility Measurements

The AEDC Facility provided measurements of stagnation pressure and stagnation temperature. These measurements were stated to be accurate to within ±0.5% and were used to obtain freestream parameters of Mach number and Reynolds number. The accuracy of Mach number and Reynolds number was estimated to be ±0.3% and ±1.2%, respectively.

Additional qualitative visual data was provided through the use of a shadowgraph system and oil flows. The shadowgraph system obtained a standard image of the 17-inch window of the test section using 70mm film with a 1-microsecond exposure time. The resolution of the film was 250 lines/inch so that details of the boundary layer could be observed. For the oil flows, the model was painted with metal layout bluing (Dykem), and a silicone oil tinted white with titanium oxide was applied to observe the surface flow streamlines. Videotape coverage was also provided of (1) both forward and aft shadowgraph windows, (2) both top and side direct views of the model, and (3) selected views of the model during cool down in the injection tank.

LN_2 COOLING FIXTURE

Fixture Description

AEDC facility personnel designed and constructed a LN_2 cooling system for the purpose of cooling the model lower surface (windward surface) to -320°F before injecting the model into the tunnel test section. The system consisted of an A-shaped manifold, Figure 7, located less than two inches from the model surface, from which an LN_2 spray was directed toward the model surface by a series of holes in the manifold. A truck reservoir trailer located outside the

test facility building supplied the LN_2, through an insulated line to a series of valves located outside the injection tank. While these valves were used to control the flow of LN_2 to the spray manifold, the system was designed so that gaseous nitrogen (GN_2) could also be supplied to warm the model and remove frost buildup and to provide a means to pressurize the injection tank. To facilitate the use of the manifold assembly in some future test, the manifold assembly has been packaged with model 29-O, which has been sealed in a special protective packaging utilized for those Shuttle models categorized as "1*" (the highest category of Shuttle models which are preserved for possible future use), and is stored at the Rockwell International facility in Downey, California.

LN_2 Operating Procedures

One of the issues with cooling the model to -320°F was the frost production on the model. To prevent excessive frost buildup, which affected the transition characteristics of the flow over the model, a set of procedures was developed and modified during the test. These procedures also were aimed at minimizing the amount of time (i.e. minimize the test cost) it took to cool the model to the desired cold wall condition. The procedures were arranged according to what segment of the test was being run and are listed below.

A) Before cold model runs
   - A1) After the last warm model run, begin flowing LN_2 to the injection tank. This conditions the LN_2 line from the truck reservoir trailer to the injection tank.
   - A2) Conduct general inspection of model or model change.

B) Continue from above, as well as in between cold model runs
   - B1) At 30 psia before reaching the total pressure test condition:
     - B1a) Start GN_2 flow through the injection tank door nozzle to fill the tank with an N_2 atmosphere **.
     - B1b) Insert model into tunnel to defrost for 6 seconds and remove.
   - B2) Increase injection tank pressure and maintain above the triple point of nitrogen (2 psia) and cycle between 2-4 psia to inhibit icing of the LN_2 spray.
   - B3) Start the LN_2 spray on the model.
   - B4) Stop the GN_2 flow and wait for the model to complete the cool down with the LN_2 spray.
   - B5) Once model temperatures have stabilized at the desired levels, stop the LN_2 spray.
   - B6) Rotate the model to the proper angle of attack, if required.
   - B7) Reduce the injection tank pressure to equalize the pressure across the tunnel door before opening.
   - B8) Inject the model into the tunnel.

C) Repeat runs or test continuation

C1) If a repeat run or a run at a new model attitude, but same condition is needed, return to step B1b.

C2) For a change of conditions, return to step B1a.

D) Model warm-up

D1) Insert model into test section for maximum of 10 seconds' duration. Several injections may be required before the model temperatures are stabilized at the desired level.

** Note that the start of the GN_2 flow was delayed until the model was out of the tunnel and the tunnel floor doors were closed, due to flow disturbances in the test section.

DATA REDUCTION

Tunnel Conditions

We computed the tunnel test section freestream parameters using the measured stilling chamber pressure and temperature, and the calibrated test section Mach number. Modifications to account for real gas effects were applied to the equations for a perfect gas isentropic expansion from the stilling chamber to the test section.

Data Nomenclature

Symbol	Definition
M_{inf}	Test section Mach number
P_{inf}	Test section static pressure (psia)
P_0	Test section stagnation pressure (psia)
q_{inf}	Test section dynamic pressure (psf)
Re_{ft}	Reynolds number per foot
Re_L	Reynolds number based on model length
T_{inf}	Test section gas temperature (°R)
ρ_{inf}	Test section gas density (slugs/ft^3)
μ_{inf}	Test section gas viscosity (lbf - sec/ft^2)
V_{inf}	Test section velocity (ft/sec)
T_0	Test section stagnation temperature (°R)
α	Model angle of attack (degrees)
G_i (i=1,...,55)	Model coaxial thermocouple gage identification number

X/L_i (i=1,...,55)	Axial location of model coaxial thermocouple gage
$2Y/B_i$ (i=1,...,55)	Lateral location of model coaxial thermocouple gage
Tw_i (i=1,...,55)	Model surface temperatures at fifty-five instrumentation locations (°R)
$\dot{q}_i$ (i=1,...,55)	Coaxial thermocouple gage output in engineering units (BTU/ft^2 - sec)
h_i (i=1,...,55)	Local heat transfer coefficients based on r = 1.0
$h_{i\ (0.9)}$	Local heat transfer coefficients based on r = 0.9
h_{ref}	Stagnation-point reference heat transfer coefficient based on 1-ft scaled radius (Fay-Riddell); see Section 5.5
h_i/h_{ref}	Heat transfer coefficient ratio based on r = 1.0
$h_{i\ (0.9)}/h_{ref}$	Heat transfer coefficient ratio based on r = 0.9

Tabulated Values

The quantities listed above in Data Nomenclature were tabulated for each time the data was sampled. The heat transfer coefficients are presented with the application of a recovery factor of 1.0 and 0.9.

Plotted Data

During the test, at the end of each run, the following plots were electronically displayed for review:

- Plot of windward centerline theoretical (laminar), Reference 4, and data-derived heat transfer coefficients, as derived from gages # 3, 6, 7, 8 10, 16, 20, 23, 30, 31, 33, 34, 37, 38, 40, 41, 43, 46, and 49. The theoretical heat transfer coefficients, as provided to AEDC by NASA-JSC, are shown in Table 3. An example plot is shown in Figure 8.

- Plot of span-wise theoretical (laminar) and data-derived heat transfer coefficients at an X/L of 0.3 for the gages # 23, 24, 25, 54, 87, 88, and 89; an X/L of 0.5 for gages # 34, 35, 53, 93, and 94; and at an X/L of 0.8 for gages # 45, 56, 66, 70, 75, and 101. Examples of those plots are shown in Figure 8. The span-wise theoretical heat transfer coefficients as provided to AEDC by NAS-JSC, are shown in Table 4.

ASCII Data Files

An ASCII electronic data file of the quantities listed in Data Nomenclature was generated for each time the data was sampled.

At the end of each test day, the ASCII files for each test run completed were transmitted electronically to NASA-JSC/LESC in Houston, Texas.

Equations and Methods

As described in Reference 1, the coax gage provides a measurement of the surface temperature of the model, which is assumed to be a homogenous, one-dimensional, semi-infinite solid. For this reason it is important that the thermophysical properties of the gage parts and the test panel material be closely matched. The coax gage heat flux at each instrumented location was computed for each time point (t_n) from the measured surface temperature by the following equation derived from semi-infinite solid considerations (Reference 5).

$$QDOT(t_n) = \frac{2(ROCK)^{1/2}}{(\pi)^{1/2}} \sum_{j=1}^{n} \frac{TW(t_j) - TW(t_{j-1})}{\sqrt{t_n - t_j} + \sqrt{t_j - t_{j-1}}} \quad , BTU/ft^2 \text{ - sec}$$

where

j = the jth term in summation,
n = the end point of summation,
t = the elapsed time from liftoff at the start of the inject cycle, sec.

The coax gage surface temperature, $TW(t_j)$, was computed by converting the millivolt output to temperature by using a curve fit of the Thermocouple Reference Tables published by the National Institute of Standards and Technology. The temperature dependence of the lumped thermal properties, $(ROCK)^{1/2}$ for the coax gages was included by means of the following equation

$$(ROCK)^{1/2} = 5.26x10^{-4}\left[\frac{TW(t_n) + TW(t_i)}{2}\right] + 0.12688, \quad BTU/ft^2 \text{ - } ^\circ R \text{ - sec}^{1/2}$$

where

TW = the model surface temperature, ° R,
t_i = the initial time at liftoff, sec.

To reduce the effects of any electrical noise in the gage output, the values of QDOT were averaged for fifteen consecutive readings after the test article reached the tunnel centerline. The gage surface temperature was also averaged over the same interval.

The heat transfer coefficient for each gage was computed from

$$H(TT) = \frac{QDOT}{(TT - TW)} \quad , BTU/ft^2 \text{ - sec - } ^\circ R$$

where

TT = the total temperature.

Since the actual value of recovery temperature is not known at each gage location, we calculated a second value of heat transfer coefficient as follows:

$$H(.9TT) = \frac{QDOT}{(.9TT - TW)} \quad , BTU/ft^2 \text{ - sec - } ^\circ R$$

to show the variation over this range of recovery temperature.

In evaluating the Orbiter windward side heating rates, a normalized value must be obtained. We calculated this value using the stagnation point heating to a reference sphere.

One method of calculating the equilibrium stagnation point heat transfer coefficient incorporates the work of Fay and Riddell (Reference 6). This method is widely accepted and has been used in this work:

$$h_{ref} = \frac{8.17173\left(P_{O_2}\right)^{0.5}\left(\mu_O\right)^{0.4}\left(1-\frac{P_{\inf}}{P_{O_2}}\right)^{0.25}\left(0.2235+1.35\times10^{-5}(T_O+560)\right)}{\left(R_N\right)^{0.5}\left(T_O\right)^{0.15}}$$

where

h_{ref} = Reference heat transfer coefficient based on Fay & Ridell theory $\left(\frac{Btu}{ft^2 \cdot sec \cdot ^\circ R}\right)$

P_{O_2} = Stagnation pressure *downstream* of a normal shock (psia)

μ_O = Viscosity based on stagnation temperature $\left(\frac{lb_f \cdot sec}{ft^2}\right)$

$P_{\inf}$ = Freestream static pressure (psia)

T_O = Freestream stagnation temperature $(^\circ R)$

R_N = Nose Radius (ft) $(R_N = 0.0175$ ft.)

This calculation must be performed in relation to the given freestream conditions. The computed reference value is then divided into the obtained Orbiter windward surface heating values $\left(h_{local}\right)$ for normalization.

To calculate the freestream air viscosity based on stagnation temperature, the Sutherland Law is used (Reference 7):

$$\mu_O = 2.270\frac{T_O^{3/2}}{T_O + 198.6}\times10^{-8}\frac{lb\cdot sec}{ft^2}$$

To calculate the stagnation pressure downstream of a normal shock $\left(P_{O_2}\right)$, one must know specific values for:

k = Ratio of specific heats $\left(c_p/c_v\right)$ (Assumed k = 1.40)

M_1 = Mach number *upstream* of a normal shock (same as M_{inf})

M_2 = Mach number *downstream* of a normal shock

With k and M_1 known, the Mach number downstream (M_2) of a normal shock can be found by the relation:

$$M_2 = \sqrt{\frac{\left(M_1\right)^2 + \frac{2}{k-1}}{\left(\frac{2k}{k-1}\right)\left(M_1\right)^2 - 1}}$$

Now, the following relation can be used to calculate the stagnation pressure downstream of a normal shock (Reference 8):

$$\frac{P_{O_2}}{P_{O_1}} = \frac{M_1}{M_2}\left(\frac{1+\frac{k-1}{2}\left(M_2\right)^2}{1+\frac{k-1}{2}\left(M_1\right)^2}\right)^{\left(\frac{k+1}{2(k-1)}\right)}$$

where

P_{O_1} = Stagnation pressure *upstream* of a normal shock (same as the freestream stagnation pressure - P_O)

Once these values are obtained, h_{ref} can be calculated and used to non-dimensionalize the corresponding heat transfer coefficient data.

Given local heat rate information, a value for the local heat transfer coefficient is computed as follows:

$$h_{local} = \left(\frac{\dot{q}_{local}}{r \cdot T_O - T_W}\right)$$

where

h_{local} = Local heat transfer coefficient $\left(\frac{Btu}{ft^2 \cdot sec \cdot {}^\circ R}\right)$

$\dot{q}_{local}$ = Local heating rate $\left(\frac{Btu}{ft^2 \cdot sec}\right)$

r = Recovery factor (assumed r = 1.0 or 0.9)

T_W = Surface wall temperature (° R)

Finally, h_{ref} is divided into h_{local} to achieve non-dimensionalized heat transfer information.

$$\left(h_{local} / h_{ref} \right)$$

Average Surface Temperature

The ratio of the model temperature, T_W, to the tunnel stilling chamber temperature, T_T, necessitated the calculation of an average wall temperature. We obtained this average wall temperature by averaging the values of T_W for gages 16, 23, and 31. This average value was determined based upon the conditions at the beginning of the injection sequence, before the model had entered the air stream.

Measurement Uncertainties

Instrumentation calibrations and data uncertainty estimates were derived using methods described in Reference 9. Measurement uncertainty consists of a combination of bias and precision errors which are defined as:

$$U = \pm(B + t_{95}S)$$

where B is the bias limit, S is the sample standard deviation, and t_{95} is the 95th percentile point for the two-tailed Student's "t" distribution (95% confidence interval) which for sample sizes greater than 30 is taken equal to 2.

The estimates of the measured data uncertainties for this test, as shown in Reference 1, are presented in Table 5a. The data uncertainties for the measurements are determined from in-place calibrations through the data recording system and data reduction program.

Propagation of the bias and precision errors of measured data through the calculated data was made in accordance with Reference 7, and the results are presented in Table 5b.

OPERATIONS

Installation of the model 29-O, with a sting prebend of 30 degrees, in the AEDC Tunnel B was typically as illustrated in Figure 9 for all testing, except for the oil flow runs. Oil flow runs were accomplished with the model inverted in the tunnel to facilitate photographing the model from a window in the top of the tunnel during the runs. Typically at the VKF Tunnel B, the test model is mounted on the sting support mechanism in the installation/injection tank directly beneath the tunnel test section. This tank is separated from the tunnel by a pair of fairing doors and a safety door. When closed, the fairing doors, except for the slot for the pitch sector, cover the opening to the tank and the safety door seals the tunnel from the tank area. After the model is prepared for a data run, the personnel access door to the injection tank is closed, the tank is vented to the tunnel pressure, the safety and fairing doors are opened, the model is injected into the air stream, and the fairing doors are closed. However, due to the limited time over which data could be taken, the data were taken without closing

the fairing and safety doors. The time required to close the doors would have allowed the model to warm up and violate the uniform temperature assumption. After the data are obtained, the model is retracted into the tank, the fairing and safety doors are closed and the procedures initiated for either a model change or preparation for the next run by either warming or cooling the model. Each injection cycle is termed as a run, and all data obtained are identified in the data tabulations by that run number.

We established the temperature of the windward surface of the model in the injection tank before each run, as previously described. The real-time temperature measurements for selected coaxial gages and the internal model thermocouples were displayed on a video screen to establish when the model reached the desired conditions.

We accomplished the model attitude positioning with the model in the installation/injection tank. As soon as the desired surface temperature was established, the model attitude was set and the model injected into the flow.

The data system was started at first motion of the model, while the model was still in the tank. The time required for the data system to record a single loop of data for each item being scanned, 0.065 seconds, was defined as the data loop period. This process resulted in approximately 15 data loops/second. Both the shadowgraph and the direct videos were initiated at the start of the injection cycle. A single photograph was taken by the 70-mm sequence camera for each test point, after the model was on the tunnel centerline.

For this test, runs were made at a freestream Mach number of 8.0 and Reynolds numbers from 0.62×10^6 per foot to 3.77×10^6 per foot. The angle of attack was primarily set at 40°, with sideslip set to 0°. A limited number of runs were made at an angle of attack of 35°. The most efficient method to accomplish the test runs was determined using the length of time required to cool or warm the model versus changing Reynolds number. We found it more efficient to run the hot wall runs as a series while changing only Reynolds number and then running the cold wall runs as a series while changing Reynolds number. We also found that the smoothness of the model was very critical for a boundary layer test, as one might suspect. Filling of screw holes and verifying heights of thermocouples were extremely important.

The testing consisted of a combination of hot wall test runs (no cooling of the model before injection into the tunnel) and cold wall test runs (model cooled to -320° F before injection into the tunnel). The model was cooled by liquid nitrogen, LN_2, applied to the model windward surface through the use of the LN_2 manifold system, which the AEDC facility personnel designed. The LN_2 cooling caused some problems which affected the test procedures and results. One example involved the dental plaster used to fill the screw recesses. We determined that the model must be near room temperature before applying the plaster, or, following the application of the LN_2 to the model surface, the plaster would tend to either partially or totally fall out during a run. To quickly heat the model to near-room temperature following a series of cooled model runs, we determined that the model should be injected back into the tunnel while the internal thermocouples were monitored. This usually involved several injections before the temperatures stabilized. For future consideration in a test such as

this one, an internal heating element would be beneficial to assist in warming the model in preparation for model changes. We also noticed that frost buildup from the LN_2 cooling process could affect the test results by providing an effective trip to the boundary layer. Again, injection into the tunnel for a short warming period generally solved this problem.

The pretest test matrix was designed to consist of 11 test series corresponding to the configuration of the discrete roughness elements on the model. Each run was to be assigned an alphanumeric designation that would consist of the series identification and run number within the test series. That basic format was

sXrY

where the *X* after the letter *s* provides the series number and the *Y* after the letter *r* provides the run number within the series. For each test series, an alphabetic character was to be added to the test series number (ex.: s2ar3) to distinguish between sets of runs with different roughness element heights or to changes in angle of attack.

Once the test was begun, we quickly determined that it was most efficient to first run all hot wall runs and then all cold wall runs for a given configuration, varying the Reynolds number for each. While still adhering to the test series designation described above, run numbers were also recorded by the usual numeric designation.

Table 6 represents the complete "As-Run Test Matrix." Each column details the various parameters of the individual run. Column 1 defines the AEDC, or numeric, run number. Column 2 provides the Series number, as was described above. Column 3 is the punch code that is similar to the Series number. Column 4 defines the roughness element used, where an N/A is used to denote the model was smooth with no roughness element. Columns 5 through 10 provide the test conditions of Mach number, total pressure, total temperature, angle of attack, Reynolds number, and ratio of model wall temperature to total temperature. Column 11 denotes whether the cooling system was used. Columns 12 and 13 provide the date and time of the run. Column 14 indicates the delta time between that run and the preceding run, and column 15 contains various remarks that are provided for some of the runs. Note that of the 167 runs conducted during this test, 14 were repeat runs. In the interest of providing as complete a record as possible for future utilization of the results from this test, Table 7 presents the complete test log as recorded by Mr. Jeff Bennett, the Rockwell International test representative.

Near the end of the planned test series, the model was treated with metal layout bluing, Dykem, to provide a dark background in preparation for oil flow runs involving the use of a white titanium oxide and oil mixture. During the runs, the LN_2 system manifold was removed from the work bay and the model was rolled 180° and injected into the flow inverted to facilitate photographing the windward surface with a 70-mm sequence camera mounted in a window on the top of the tunnel test section. The sequence camera took photographs at 2-sec intervals during each oil flow run. The model was cleaned and a fresh application of oil was applied before the next run. The Dykem bluing tended to not remain on the model after the first attempted oil flow run. While several patterns of oil application were utilized in an

attempt to provide the best results possible, the oil was so heavily applied that the resulting oil streamline patterns were adversely affected for most runs.

To assist in documenting all aspects of this test for future use, photographs were taken of the only original model components that were available during the pretest planning. As illustrated in Figures 10 and 11, all that remained of the original model 29-O were the wing/lower fuselage, canopy block, and associated upper wing cover plates.

Installation photographs were taken (Figure 9 and Figure 12, respectively) to document the LN_2 manifold system and its relationship to the model while the model was in the installation/injection tank beneath the test section and of the model positioned for a typical run in the test section.

During the test, multiple shadowgraphs were taken for each run. These were a post-test product which was delivered as a set of 70-mm negatives and a corresponding set of contact prints.

DATA PRESENTATION AND RESULTS

Overview of Test Data

We conducted a total of 167 runs during this test program. Of these, 5 runs (# 145 - 149) were oil flow runs and no heat flux data were obtained. For 27 runs (#1-13, 38, 41, 43, 46, 47, 49, 55, 82, 91, 115, 127, 136, 166, 167), data were not obtained or the data were corrupted due to unintentional roughness. For 18 runs (# 15, 17, 19, 22, 34, 86, 101-108, 130-132, 135) excessive frost was observed on the model due to the LN_2 cooling. Therefore, we obtained good heat flux data that can be used to evaluate the desired transition effects for 117 runs. Table 8 presents a summary list of these runs organized by configuration (smooth body or roughness element installed). Table 9 presents those runs which were deemed faulty and were not used.

Shock Interference Effect

Initial runs of the test matrix exhibited unexpected, repeatable turbulent-level heating past the X/L = 0.75 location. We believed this phenomenon to be due to transition on the model when the higher Reynolds numbers were run. However, the freestream conditions were decreased such that laminar flow was expected and yet, the heating at the aft of the model continued to be high. We realized that something was forcing the heating to approach turbulent levels at the rear of the model regardless of the freestream conditions.

As part of the regular matrix of conditions, we planned a set of lower angle of attack, as well as inverted model, test points. Upon lowering the angle of attack to 35°, the heating at the aft end of the model for the lower Reynolds numbers approached laminar levels. The same was seen for both the 40° and 35° cases when the model was inverted, thereby verifying that

something was forcing the boundary layer to be turbulent toward the aft end of the vehicle for 40° angle of attack in the non-inverted configuration.

Investigation of the temperature time history plots for a number of centerline thermocouples revealed that, as the model was approaching the centerline of the tunnel, the thermocouples indicated a step increase in temperature sequentially down the vehicle for both angles of attack, and for both the inverted and normal model orientations. This effect was attributed to a stationary shock that the model passed through during insertion into the tunnel, which would also cross each thermocouple sequentially from nose to tail.

We investigated two plausible explanations for the existence of a shock in the tunnel. The first involved the reflection of a shock wave from the pit beneath the model. The second explanation was the formation of a tunnel wall boundary layer induced shock upstream of the model. Shock reflection from the pit was deemed unlikely because of the model positioning with respect to the tunnel, and the effect seemed to be stationary as the model approached the tunnel centerline. The formation of a boundary layer induced shock could be explained, however. Since the heat transfer tests being performed had very short on centerline times, the insertion doors were not being closed during a data point. The process for a model insertion involved opening the insertion doors, inserting the model for the required duration, returning the model to the pit, and finally closing the insertion doors. The fact that the insertion doors remained open during the time the model was on centerline opened the possibility to a disturbance in the pit feeding forward in the tunnel wall boundary layer. The most likely scenario involved the formation of a separation bubble pair in the pit, and in the upstream tunnel boundary layer. The formation of a small separation bubble in the upstream boundary layer on the tunnel wall would cause the formation of a shock emanating from the beginning of the separation bubble.

A tunnel survey of the Mach 8 test section flow field had been performed in August and September of 1991; however, no data were taken with the insertion doors open. A similar survey of the Mach 6 test section was performed with the insertion doors open and closed in 1974, and the existence of a tunnel wall boundary layer induced shock was documented for the open-door configuration (Reference 10). This Mach 6 tunnel survey identified a disturbance in the flow field which appears to originate ahead of the open cavity door (Figure 13). The angle of the disturbance relative to the tunnel centerline can be expected to differ in the Mach 8 facility. Although similar data for the Mach 8 facility does not exist, the results of this test demonstrate the existence of a similar disturbance. The Mach 6 test section survey thereby validates the aforementioned explanation of the higher than expected temperatures on the aft end of the model, and the existence of a disturbance like that shown in Figure 13 would explain the spatially sequential, step increase in thermocouple readings during model insertion.

The correction for runs after run 107 involved repositioning the model in the tunnel, above the location of the boundary layer induced shock. Figures 14 and 15 illustrate the original and revised model positions. Table 8 includes a column that indicates whether this problem was present during a particular run.

Smooth Body Transition Data

Effect of Reynolds Number

During this test program, test data were obtained for freestream Reynolds numbers from 0.6×10^6 per foot to 3.6×10^6 per foot. Figure 16 presents the effect of the variation of the freestream Reynolds number on the smooth body transition for the centerline of the model. Recall that the smooth body included a distributed roughness of 0.001 in. on the windward surface. At the highest Reynolds number (3.58×10^6 per foot), the transition front is located at approximately X/L = 0.4. As the freestream Reynolds number was decreased, the transition front moved further back on the model toward the tail. At Reynolds number = 1.52×10^6 per foot, we observed mostly laminar flow on the model. However, near the tail end of the model there is a slight increase in heating that may be due to near-transitional heating. Figures A-1 through A-5 in Appendix A provide comparisons of the measured heat transfer coefficients to the theoretical laminar values for the entire windward surface. The base color contours represent the predicted laminar heating, and the colors within the circles correspond to the heating levels measured by the heat flux gages. When the colors within the circles nearly match the surrounding color, then laminar flow is indicated. When the color within the circle indicates higher heating levels than the surrounding colors, then transitional to turbulent heating levels are indicated. These plots provide a more complete description of the transition front on the model windward surface.

Effect of Angle of Attack

Figure 17 presents the centerline heat transfer data for two Reynolds numbers (3.58×10^6 and 1.52×10^6 per foot) at 35° and 40° angle of attack. The centerline data indicate that an angle-of-attack change from 35° to 40° has little affect on the transition location and both cases appear to experience transitional heating at the tail-end of the model for the lower Reynolds number. However, the color contour plots presented in Figures A-1, A-5, A-6, and A-7 in Appendix A indicate that the transition front has moved further forward on the wing for the 40° case than for the 35° case.

Effect of Wall Cooling

Figure 18 presents the centerline heat transfer data for two Reynolds numbers (3.58×10^6 and 2.50×10^6 per foot) and two average wall temperature ratios (T_W/T_O=0.37 and T_W/T_O=0.13). At the higher Reynolds number, the cold wall case results in a significant jump forward of the transition front to approximately X/L = 0.2 as compared to X/L = 0.4 for the warm wall case. Furthermore, for the cold wall case, the transition process from laminar to turbulent occurs across a shorter distance. For the lower Reynolds number, 2.5×10^6 per foot, the transition front is at approximately X/L = 0.55 for the warm wall and at X/L = 0.35 for the cold wall. Again, turbulent levels of heating are attained more rapidly for the cold wall case. Figures A-1, A-3, A-8, and A-9 in Appendix A provide the corresponding color plots for these cases. The change in wall temperature results in a dramatic change in the transition location. At the

high Reynolds number (Figure A-8), it is unknown why the transition front appears to be located further upstream on one side of the model than the other.

Roughness Element Transition Data

Effect of Reynolds Number

Figure 19 presents the resultant heat transfer distributions on the model centerline with a 0.008-inch roughness element located at Location D. At the highest Reynolds number, 2.51†x 10^6 per foot, transition occurs at the roughness element, and turbulent levels of heating are attained rapidly. By decreasing the Reynolds number to 2.05 x 10^6 per foot, transition still occurs at the element. But after an initial increase in heating, turbulent heating is attained considerably further downstream. As the Reynolds number is further decreased to 1.49 x 10^6 per foot, the initial increase in heating is less and the transition to turbulence is moved even further downstream. At a Reynolds number of 0.998 x 10^6 per foot, a small disturbance in the heating near the element is noticed but the rest of the model appears to be laminar. Figures A-5, A-10, A-11, A-12, and A-13 in Appendix A present the corresponding contour plots.

Effect of Angle of Attack

Figure 20 presents the centerline heat transfer results for a 0.015-inch roughness element located on model centerline at Location G. Three runs were made with a Reynolds number of 1.0 x 10^6 per foot for 40°, 38°, and 35° angle of attack. For all three cases, the transition location is at the element and for 40° and 38° little difference in the results are observed. However, at 35° the distance between transition onset, at the element, to full turbulence is slightly delayed. The color plots presented in Figures A-14, A-15, and A-16 in Appendix A show that the effect of the roughness element is restricted to the center area of the model downstream of the element.

Figure 21 presents the centerline results for a roughness element located off-centerline at Location C for a Reynolds number of 2.0 x 10^6 per foot. Results for two roughness heights—0.008 and 0.015 inches—and for 35° and 40° angle of attack are presented. For both heights, the roughness elements appear to have little affect on the model centerline heating at 40° angle of attack. However, at 35° the smaller roughness element results in the transition front crossing the centerline at approximately X/L = 0.5. Referring to the color plots in Figures A-17, A-18, A-19, and A-20 in Appendix A, you can see that both roughness elements have a greater influence on transition at the lower angle of attack and that the smaller roughness element has more of an affect than the larger one. These phenomena will require further investigation.

Figure 22 presents the centerline results for a 0.015-inch roughness element located off-centerline at Location F for a Reynolds number of 2.0 x 10^6 per foot for both 35° and 40° angle of attack. No affect on transition is observed on the centerline. However, Figures A-4, A-21, A-22, and A-23 in Appendix A indicate that at 35° the roughness element has more affect on transition off-centerline than for the 40° case.

Effect of Wall Cooling

Figure 23a-c compares the centerline heat flux results for a warm wall and cold wall model with a 0.008-inch roughness element at Location D. As shown in Figure 23a for a Reynolds number of 2.0 x 10^6 per foot, the wall temperature had a significant effect on transition on the smooth body. However, for the case with the roughness element, transition occurred at the element for both wall temperatures, and the rise to turbulent heating has similar trends. Similar trends are observed at a lower Reynolds number of 1.5 x 10^6 per foot (Figure 23b). At a Reynolds number of 1.0 x 10^6 per foot (Figure 23c), both the smooth model and the model with a roughness element have mostly laminar heating for the warm wall case except for a slight increase in heating just downstream of the roughness element. For the cold wall case, both model configurations have heating levels slightly higher than laminar on the aft half of the model, which may indicate transitional heating. Figures A-11, A-24, A-25, and A-26 in Appendix A provide the contour plots for a Reynolds number of 2.0 x 10^6 per foot. Figures A-12, A-27, A-28, and A-29 present the contour plots for a Reynolds number of 1.5 x 10^6 per foot. Figures A-13, A-30, A-31, and A-32 present the contour plots for a Reynolds number of 1.0 x 10^6 per foot.

Effect of Roughness Element Height

At Location A on the model, two roughness element heights were tested—0.004 and 0.008 inches. At a Reynolds number of 2.0 x 10^6 per foot (Figure 24), transition occurs on the smooth body at approximately X/L = 0.6. The small roughness element brings the transition front forward to approximately X/L = 0.4. The large roughness element causes transition to occur at the element. Figures A-4, A-33 and A-34 in Appendix A present the contour plots for these cases.

At Location G on the model, two roughness element heights were also tested—0.006 and 0.015 inches. For a Reynolds number of 1.5 x 10^6 per foot (Figure 25), the largest roughness element brings transition to the element; whereas the small roughness element has little effect on transition when compared to the smooth body results. Figures A-5, A-35, and A-36 present the contour plots.

Effect of Roughness Location

With a 0.005-inch roughness element at Location E and a 0.006-inch roughness element at Location I, little effect on transition on the model centerline was observed for a Reynolds number of 2.5 x 10^6 per foot (Figure 26). However, the color plot in Figure A-37 indicates that the roughness element at I brings transition to the element, but the element at E has no apparent effect on transition.

A 0.010-inch and a 0.008-inch roughness element were tested simultaneously at Locations J and K, respectively. As shown in Figure 27, the transition front is located at element J for a Reynolds number of 1.5 x 10^6 per foot. Reviewing the color plot in Figure A-38, element K also brings the transition front to the element. In both cases, the effect of the elements appears to be restricted to a narrow region downstream of the element.

Oil Flow Data

Oil flows were run at both 35° and 40° angle of attack. Several patterns of titanium oxide and oil mixture applications were utilized in an attempt to provide the best results possible. However, in most cases, the oil mixture was so heavily applied that the resulting oil streamline patterns were not of the best quality. The Dykem bluing, used to provide a dark surface background for the white titanium oxide and oil mixture, tended to not remain on the model after the first oil flow attempt. The last three oil flow runs (147, 148, and 149) were of an acceptable quality. Additionally, roughness element C-4 was installed on the model for these runs. The results of runs 147 and 148 at angles of attack of 35° and 40° are presented in Figures 28 and 29, respectively. The higher shear due to turbulent flow on the model's right side is evident in the photos.

Shadowgraph Data

During each test run, a shadowgraph was obtained of the Orbiter model in the test section. These profile photographs show clearly the bow shock around the model. Details of the boundary layer state—laminar or turbulent—are not discernible from the photographs. Due to the sheer number of photographs involved, only Figures 30 and 31 (Runs 27 and 37) are presented as examples of the shadowgraphs taken. Run 27 was a smooth-body run and the boundary-layer was mostly laminar. During Run 37, the model had a 0.008-inch roughness element on the model centerline at X/L ~ 0.05 and resulted in a turbulent boundary layer for most of the body.

Plotted and Tabulated Data

Appendix B and Appendix C contain the plotted and tabulated data for the test. Data from runs 2, 3, 11, 12, and 38 were not recovered. Appendix B, the plotted data, includes both the data obtained along the model centerline and the span-wise distributions at three axial locations, X/L = 0.3, 0.5, and 0.8. The plotted heat flux gage data are compared to the computed laminar heating levels.

CONCLUSIONS

Heat flux data have been obtained on the windward surface of a 0.0175-scale Orbiter model at a Mach number of 8 and over a Reynolds number range of 0.6×10^6 to 3.6×10^6/ft. Single rectangular roughness elements were positioned on the model at nine different locations to evaluate the effect of discrete roughness on the boundary layer transition. From the test results, the following conclusions can be drawn:

A) A single roughness element on the windward centerline in the nose region can induce early boundary layer transition over most of the windward surface.

B) A single roughness element off to the side of the windward centerline can result in a turbulent boundary layer occurring on a major portion of one side of the windward surface while the other side remains laminar.

C) Small changes in angle of attack (5 degrees) have little effect on transition for a smooth body or for roughness elements located on the windward centerline. However, for off-centerline roughness elements, the transition trends are affected by angle of attack.

D) Cooling the model results in boundary layer transition occurring at lower freestream Reynolds numbers.

E) Increasing the height of roughness elements located on the windward centerline results in transition at lower freestream Reynolds numbers. However, the trend is less obvious for the off-centerline elements.

F) Roughness elements located further aft on the model result in only narrow regions of turbulence on the model.

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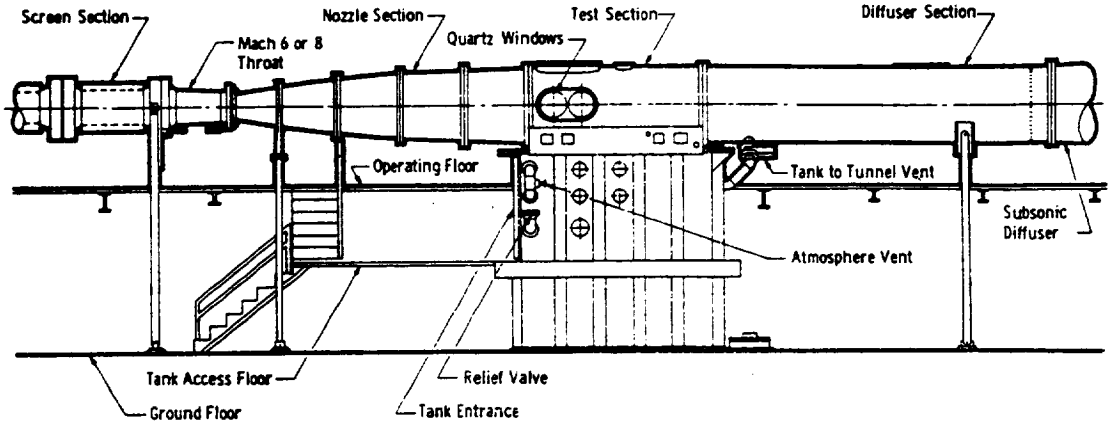
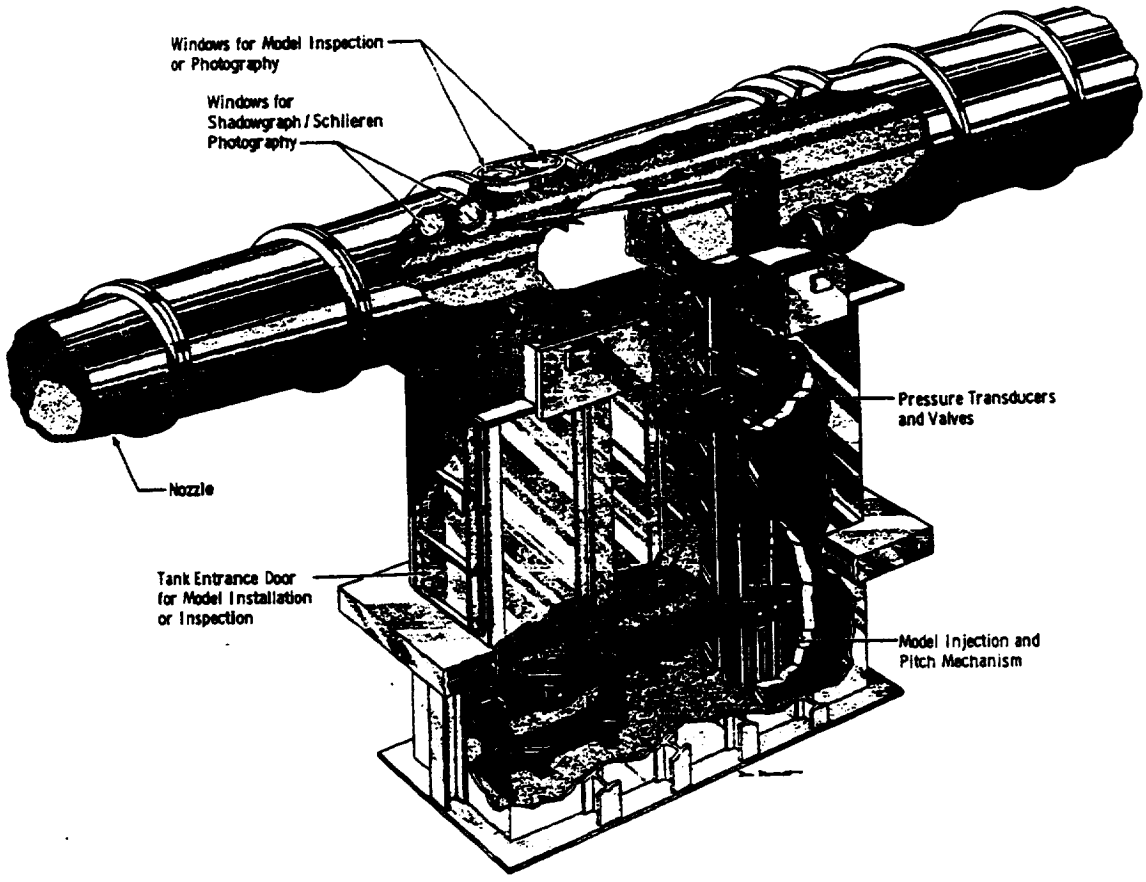


a. Tunnel assembly



b. Tunnel test section

Figure 1 - AEDC Tunnel B Test Facility

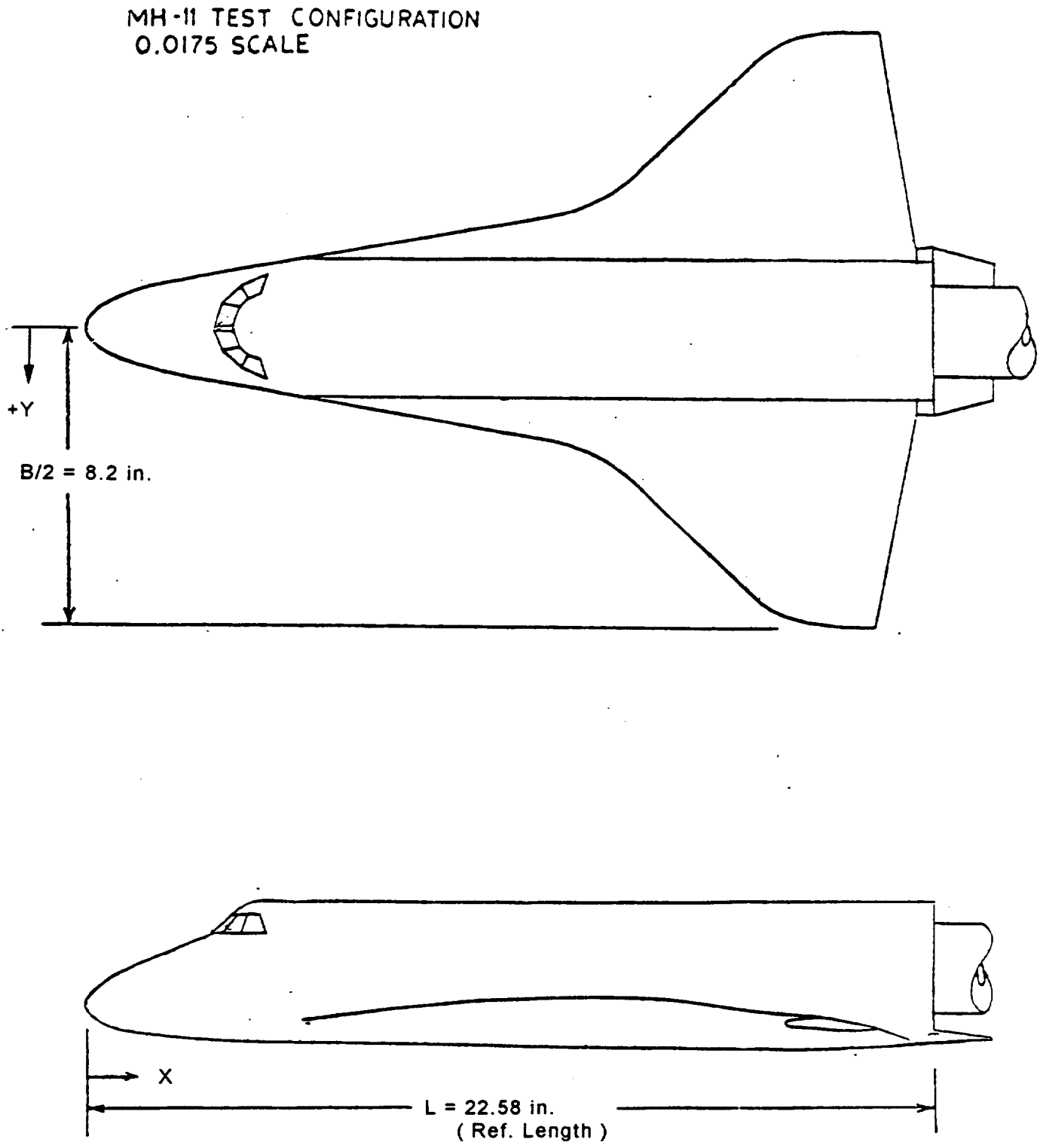


Figure 2 - Shuttle Orbiter Model 29-0 Test Configuration

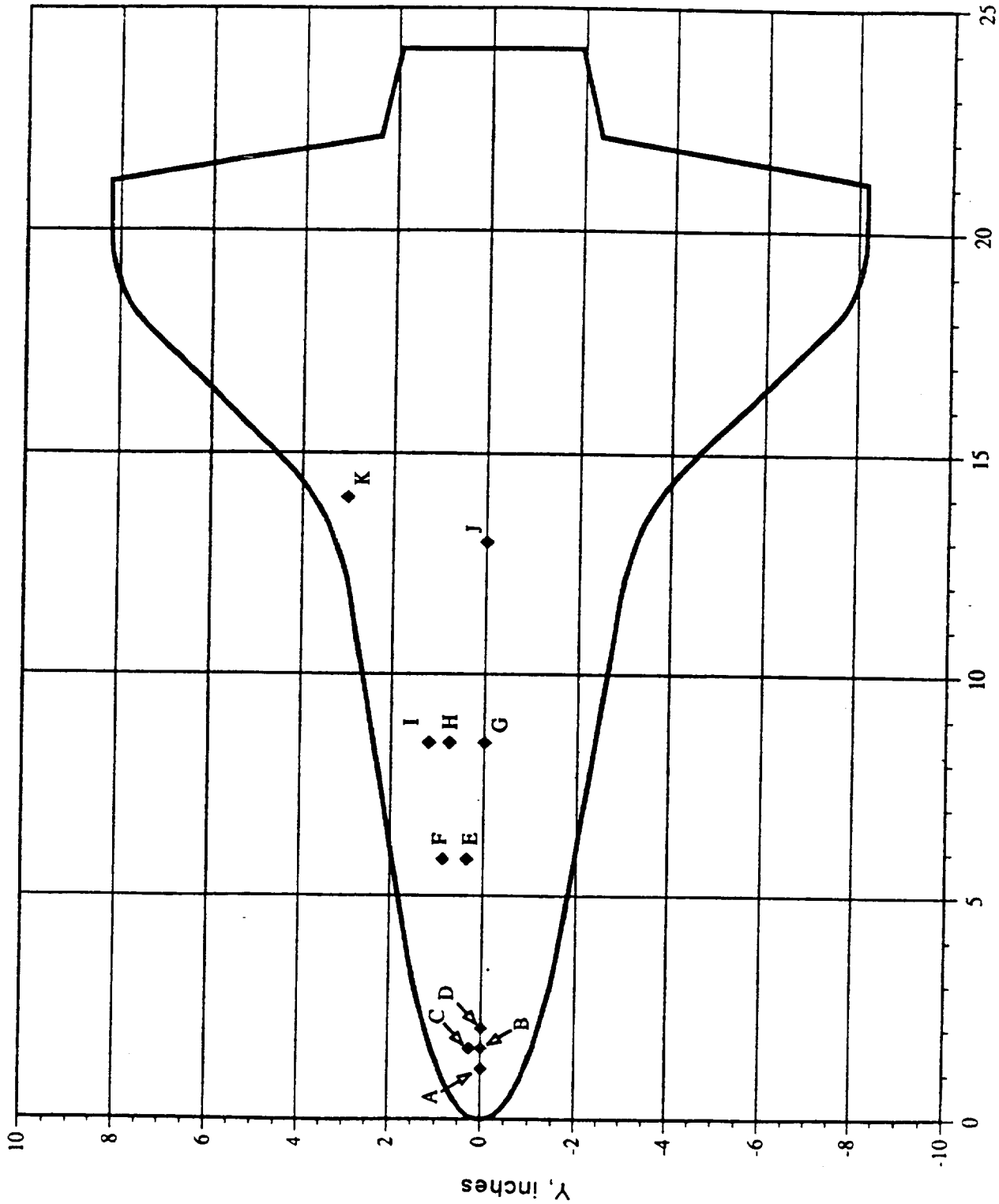


Figure 3 - Model Discrete Roughness Element Locations

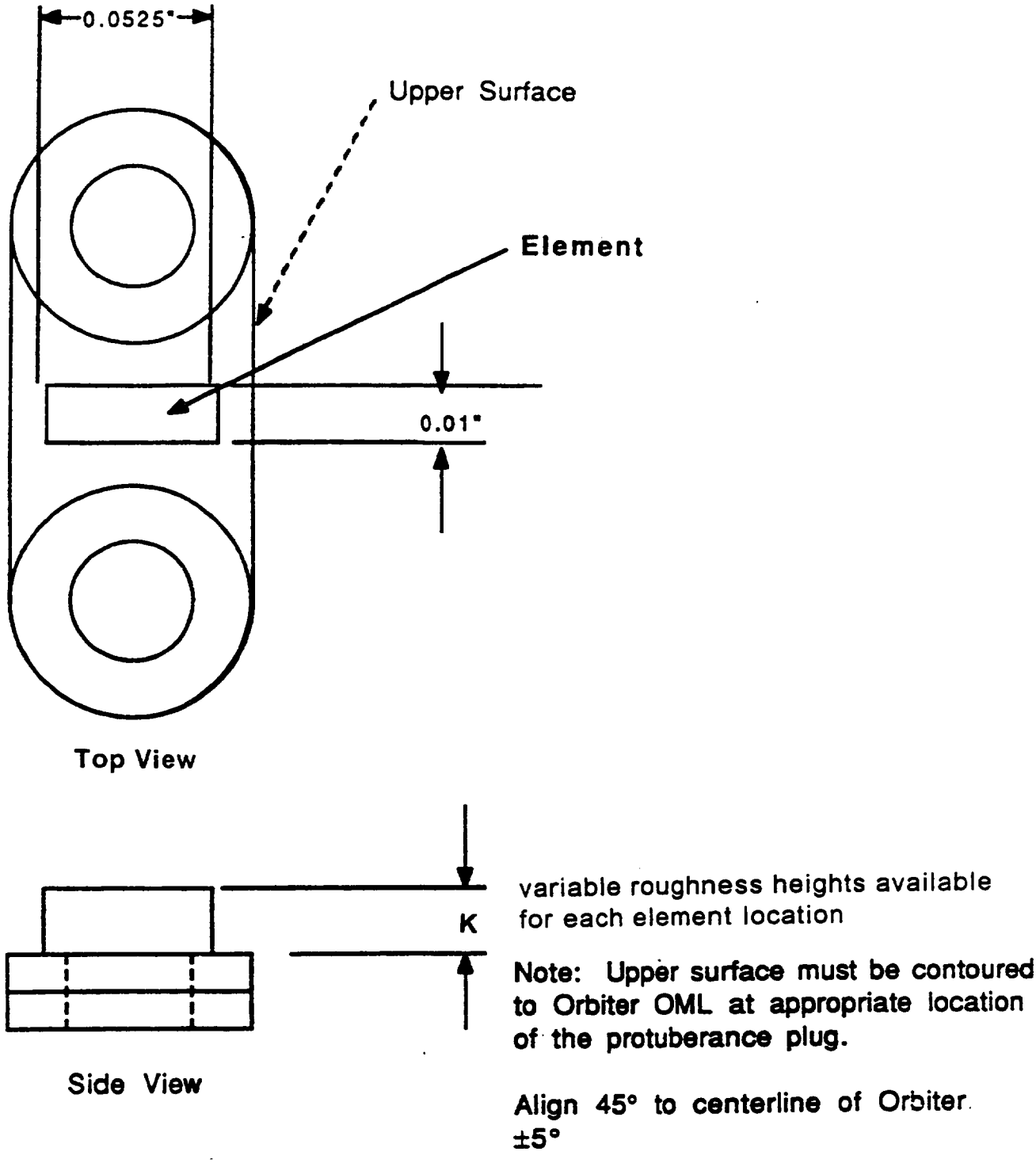


Figure 4 - Geometry of Typical Discrete Roughness Element

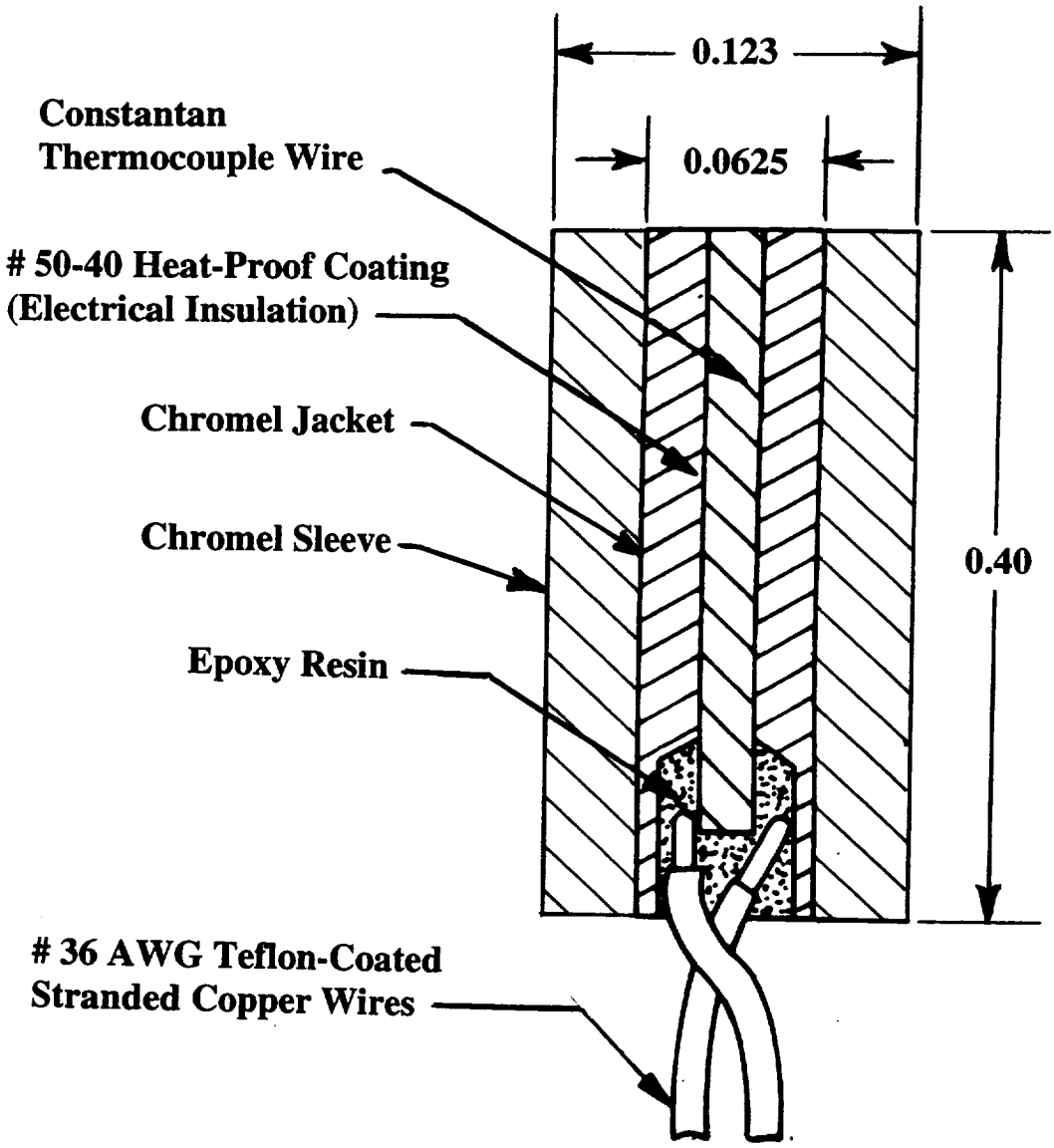


Figure 5 - Geometry of Constantan-Chromel Coaxial Thermocouple Gages

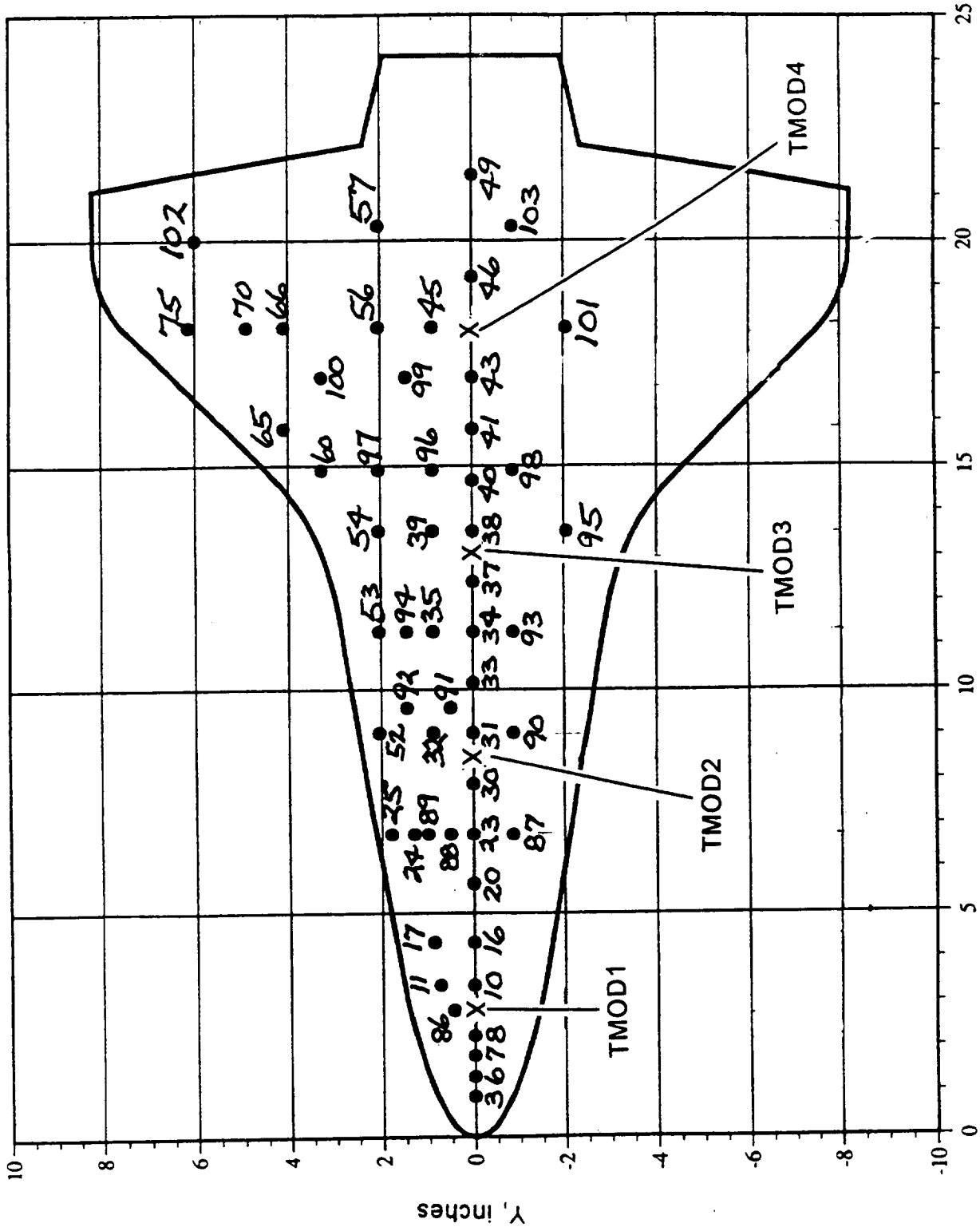


Figure 6 - Shuttle Orbiter Model 29-0 Coaxial Thermocouple Gage Locations

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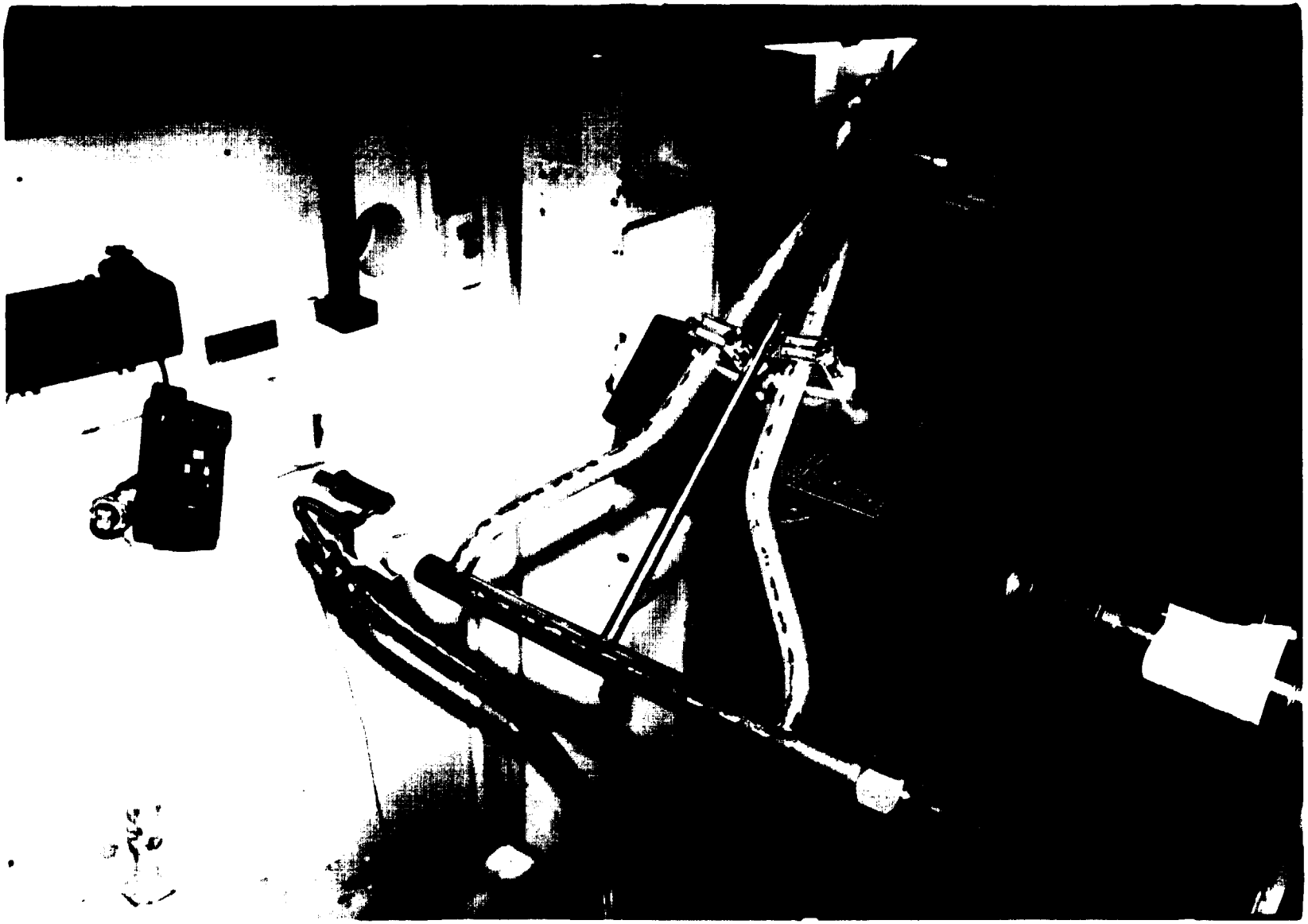
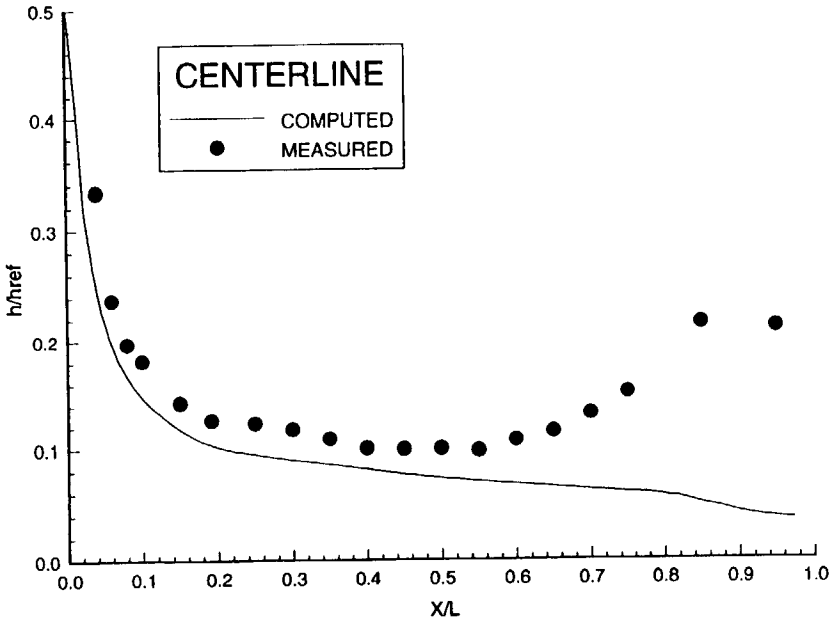
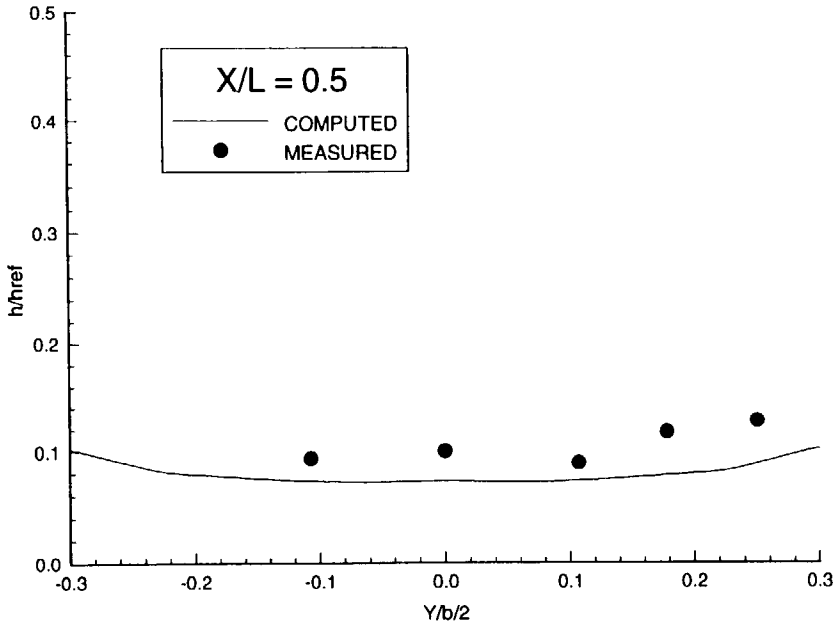
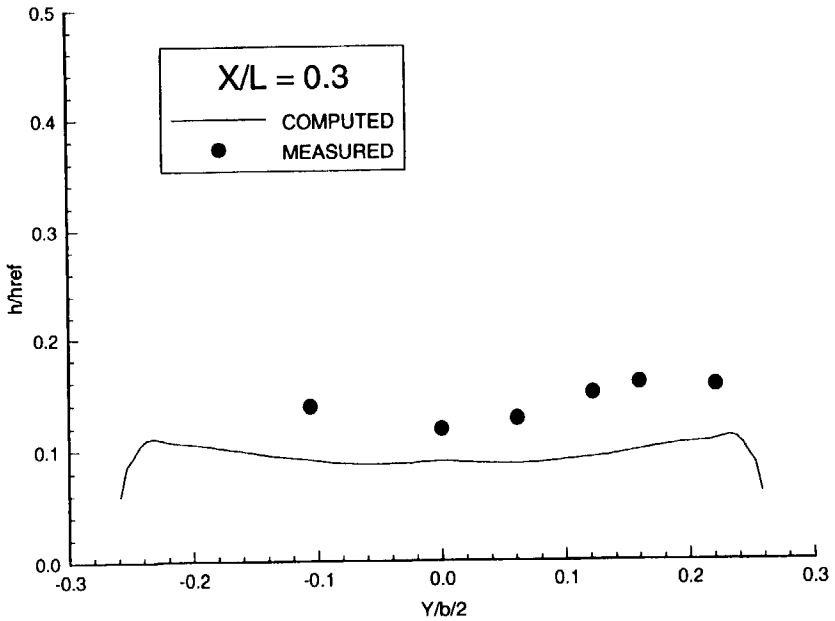


Figure 7 - LN_2 Cooling Manifold







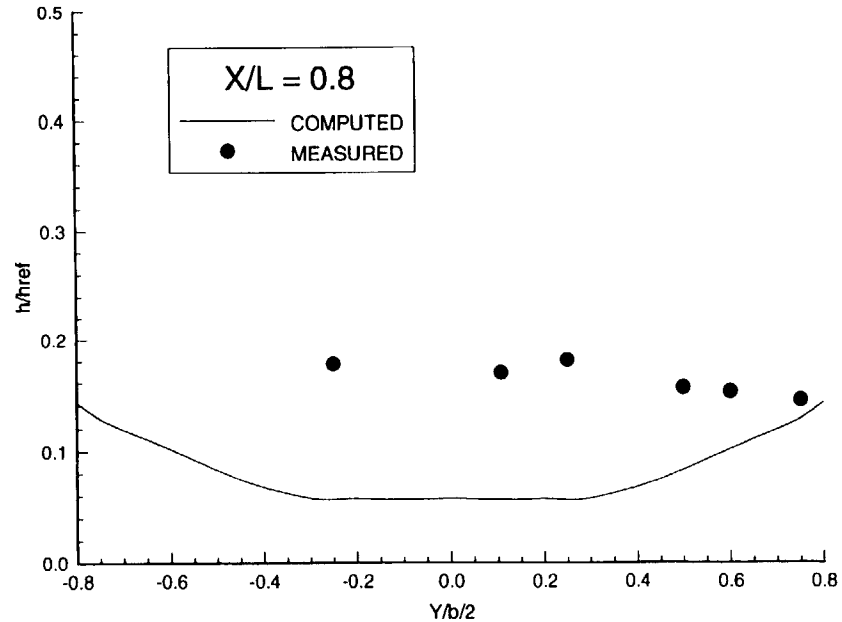


Figure 8 - Example Plots of Centerline and Span-wise Theoretical (Laminar) and Data-derived Heat Transfer Coefficients

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Figure 9 - Model Installation in AEDC Tunnel B Test Section

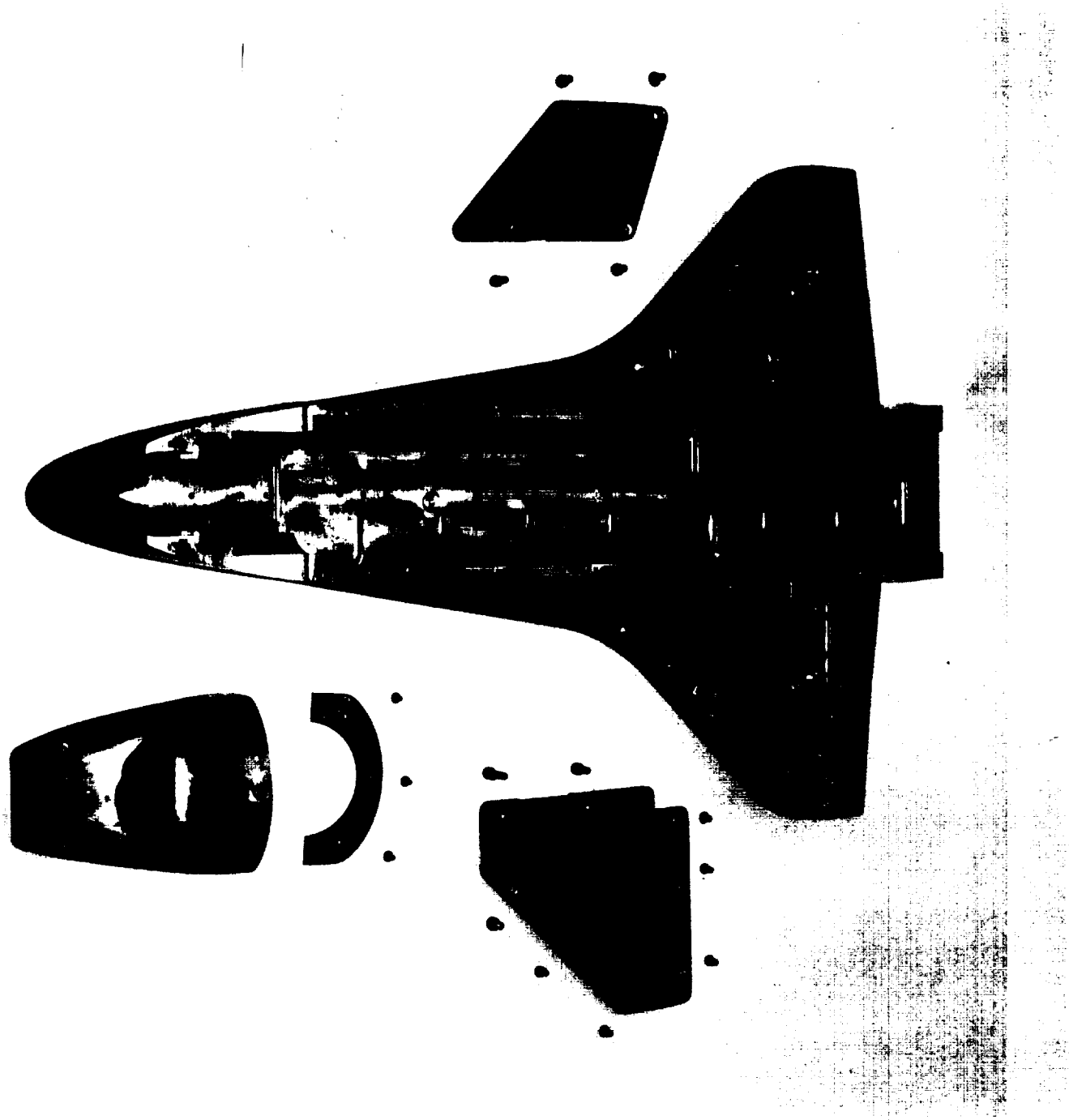


Figure 10 - View of Upper Surfaces of Existing Original Model 29-0 Components

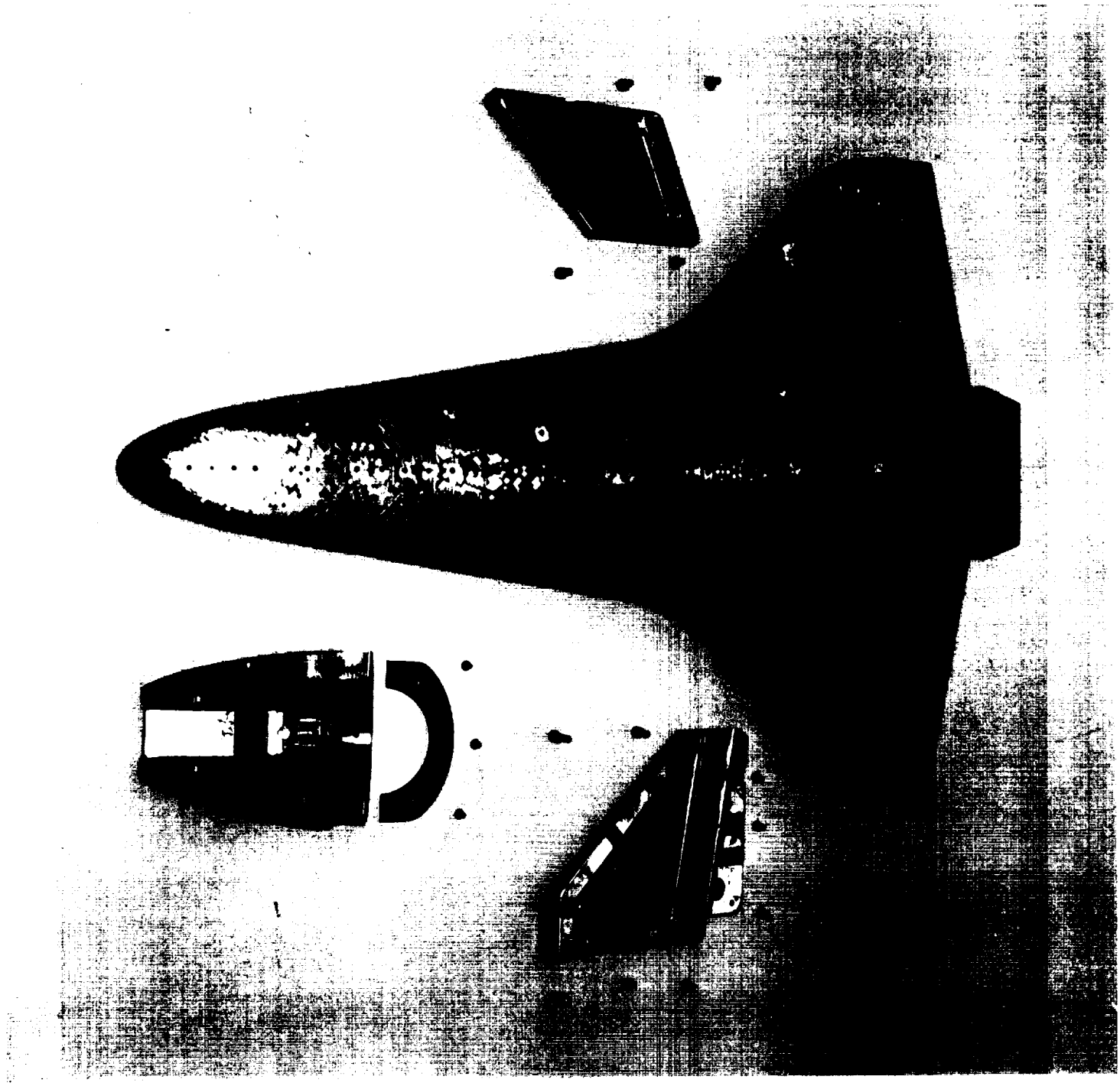


Figure 11 - View of Lower Surfaces of Existing Original Model 29-0 Components

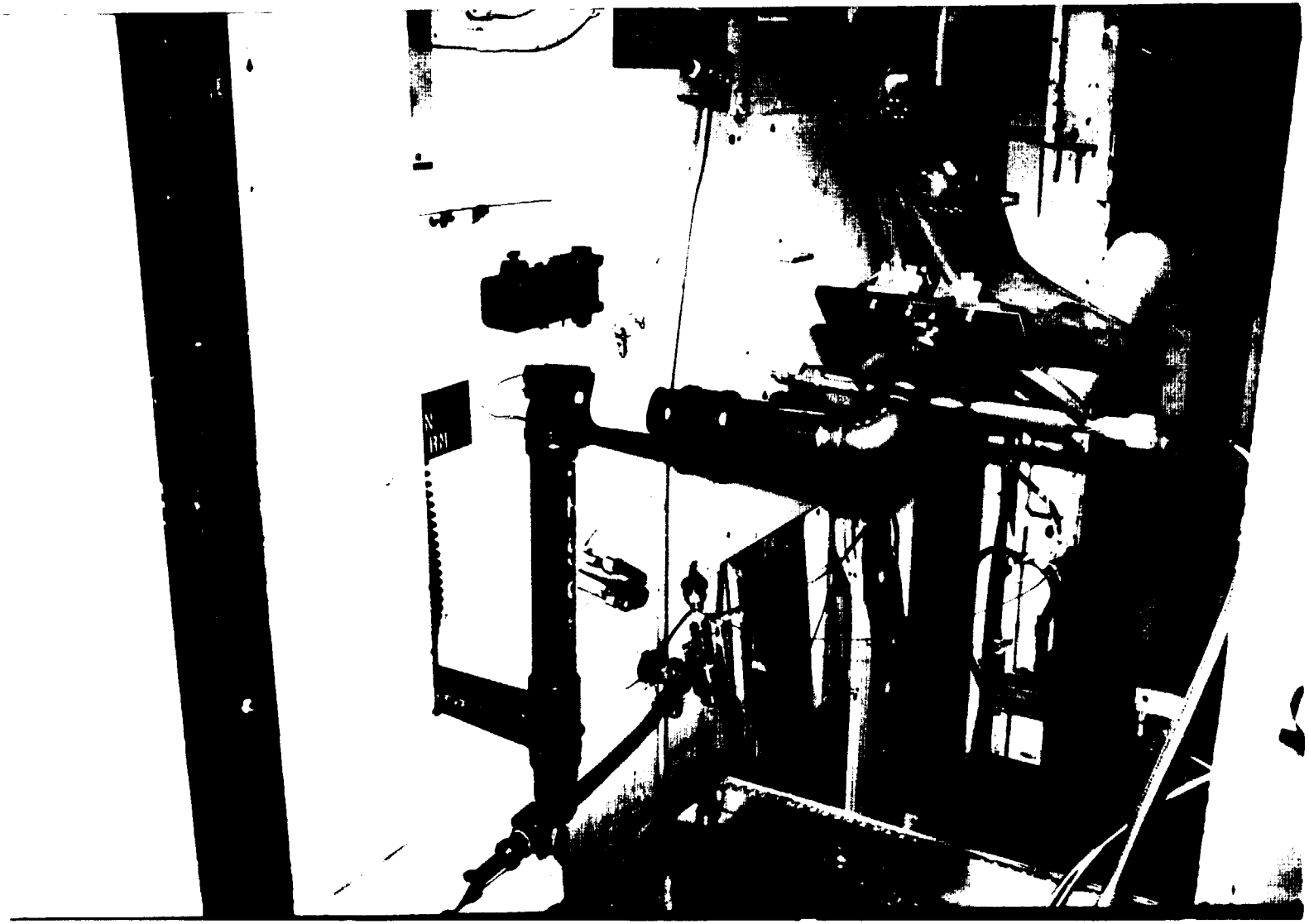


Figure 12 - Installation of the LN_2 Cooling System

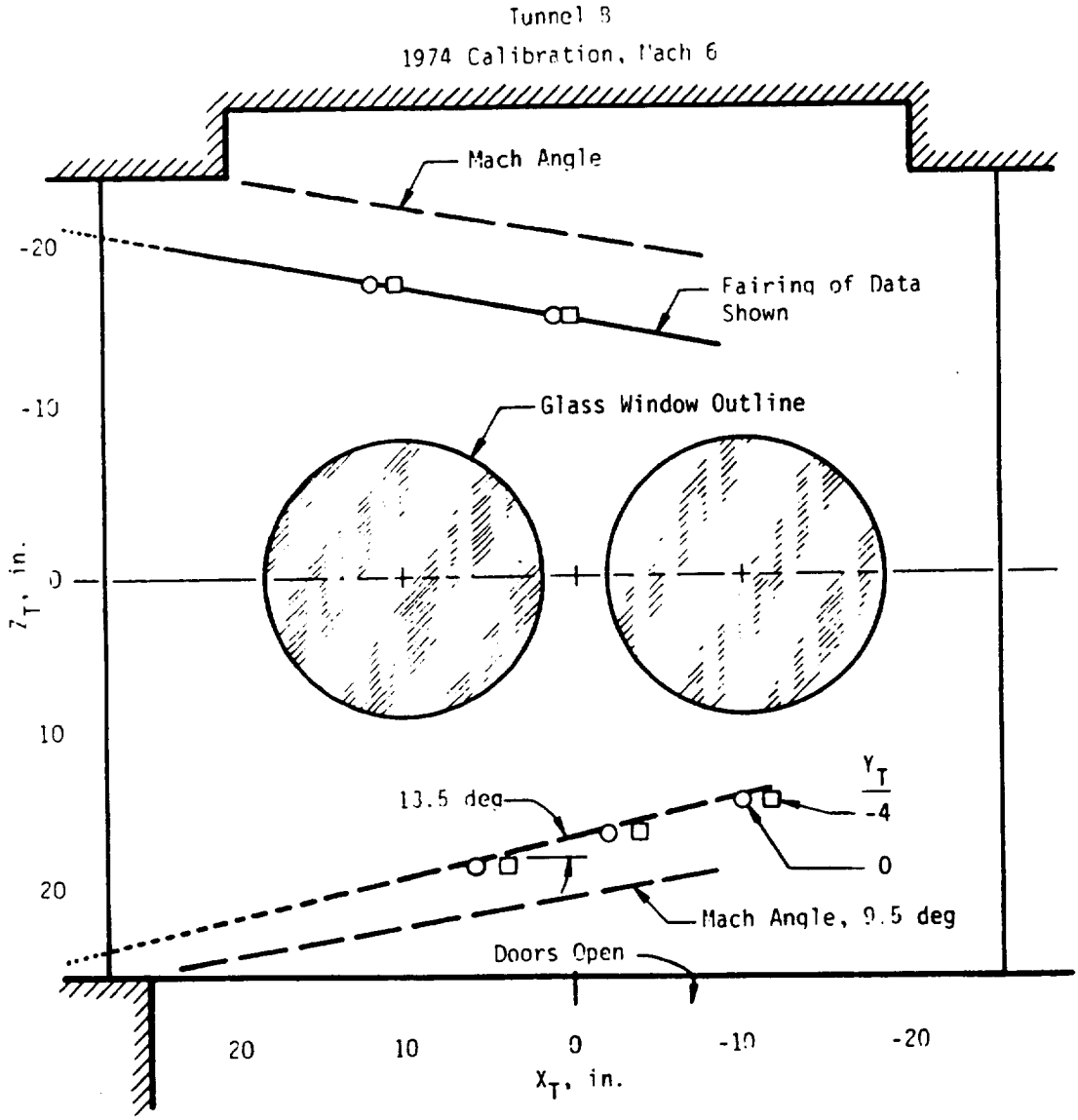


Figure 13 - Cavity Induced Disturbance Locations at M =6.0 and P_t = 30

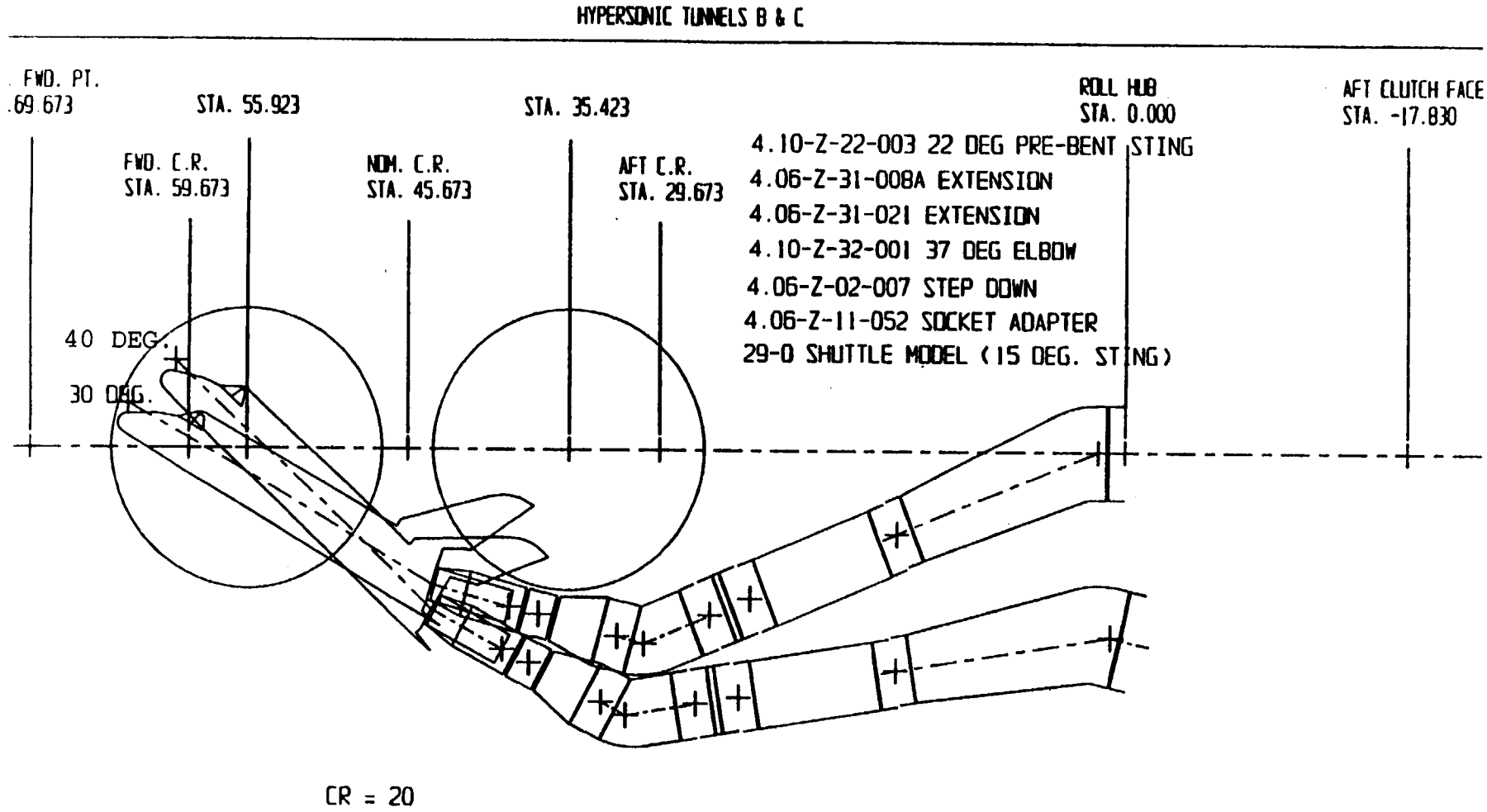


Figure 14 - Installation Sketch of the Original Model Position Within the AEDC Tunnel B Test Section

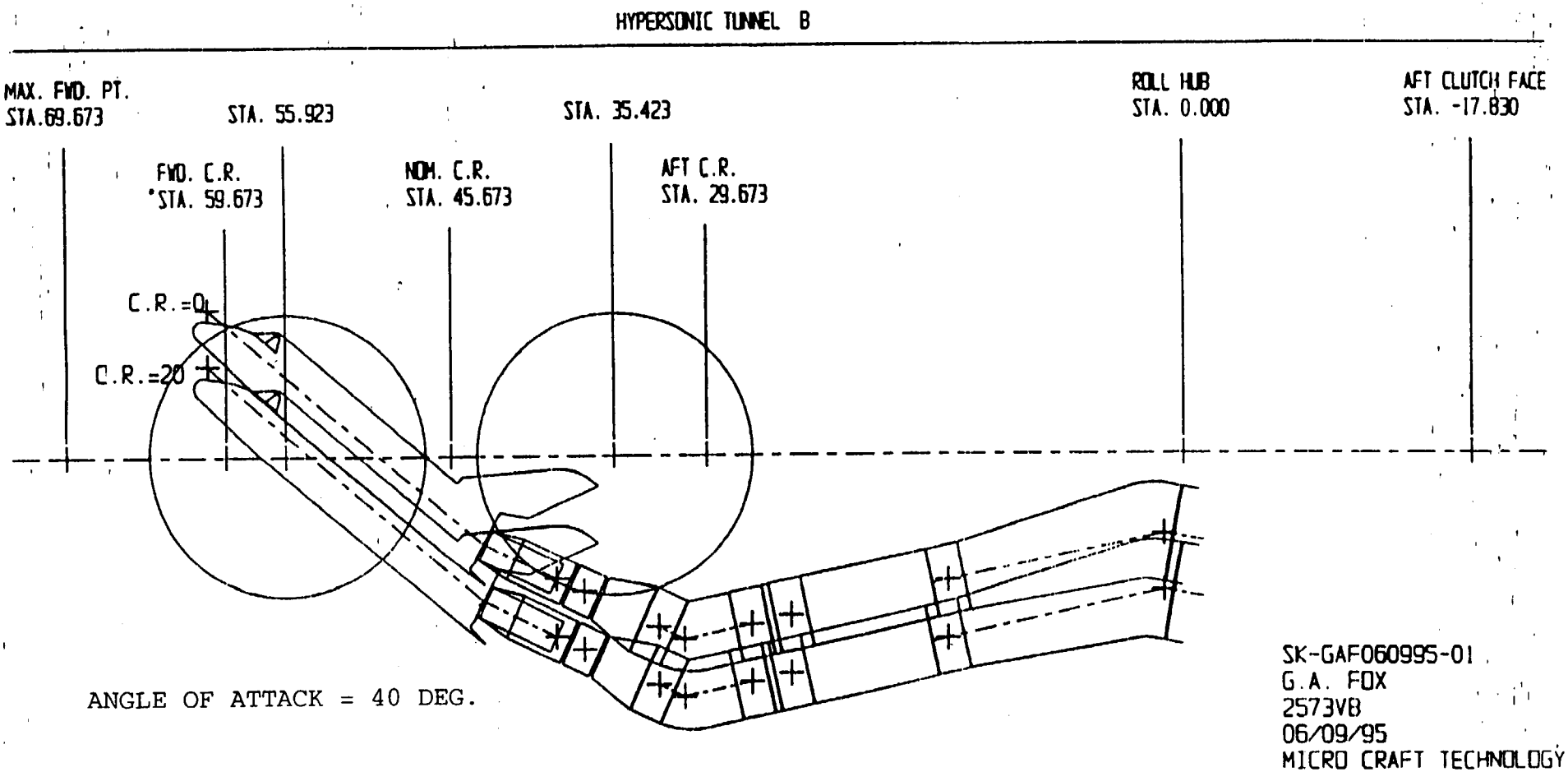


Figure 15 - Installation Sketch of the Revised Model Position Within the AEDC Tunnel B Test Section

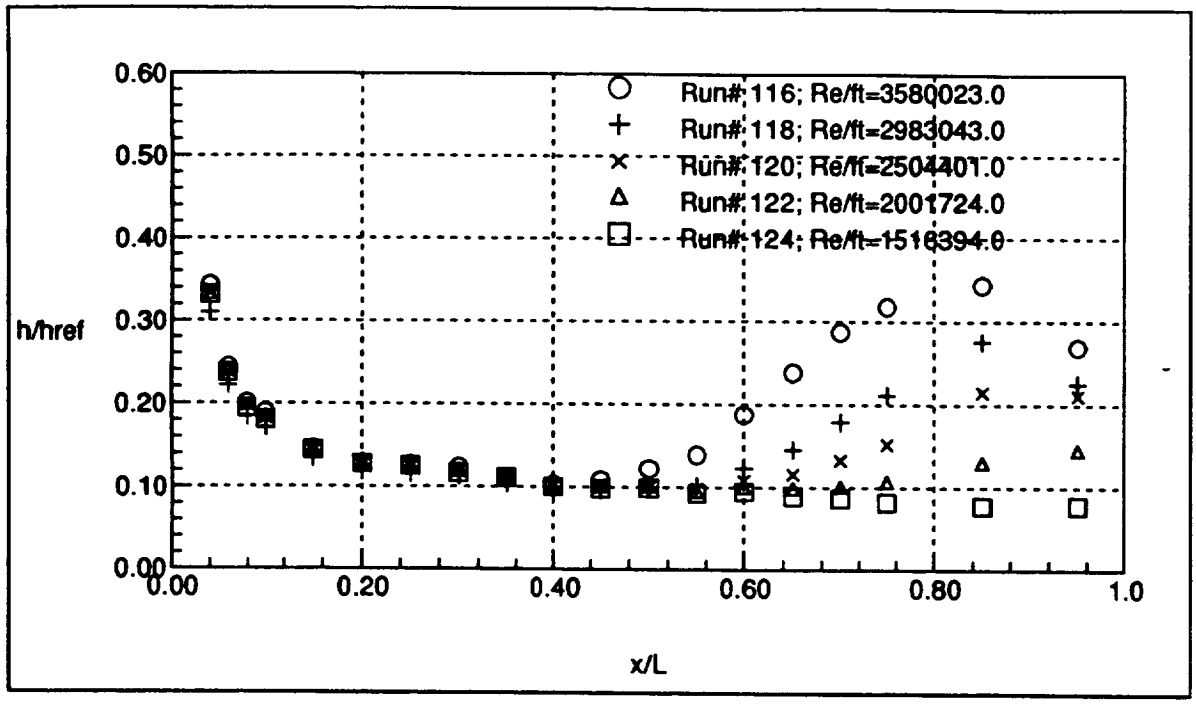


Figure 16 - Effect of Freestream Reynolds Number on Smooth-body Transition: Angle-of-attack = 40°; $T_W/T_O = 0.4$.

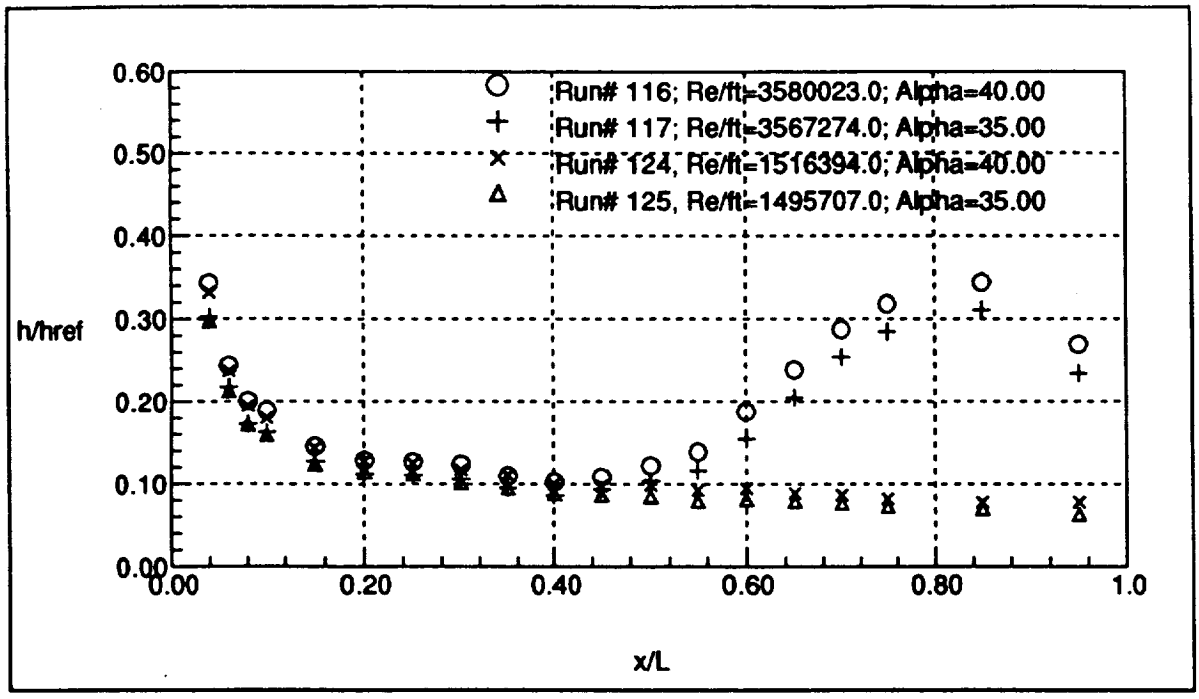


Figure 17 - Effect of Angle-of-Attack on Smooth-body Transition: $T_W/T_O = 0.4$.

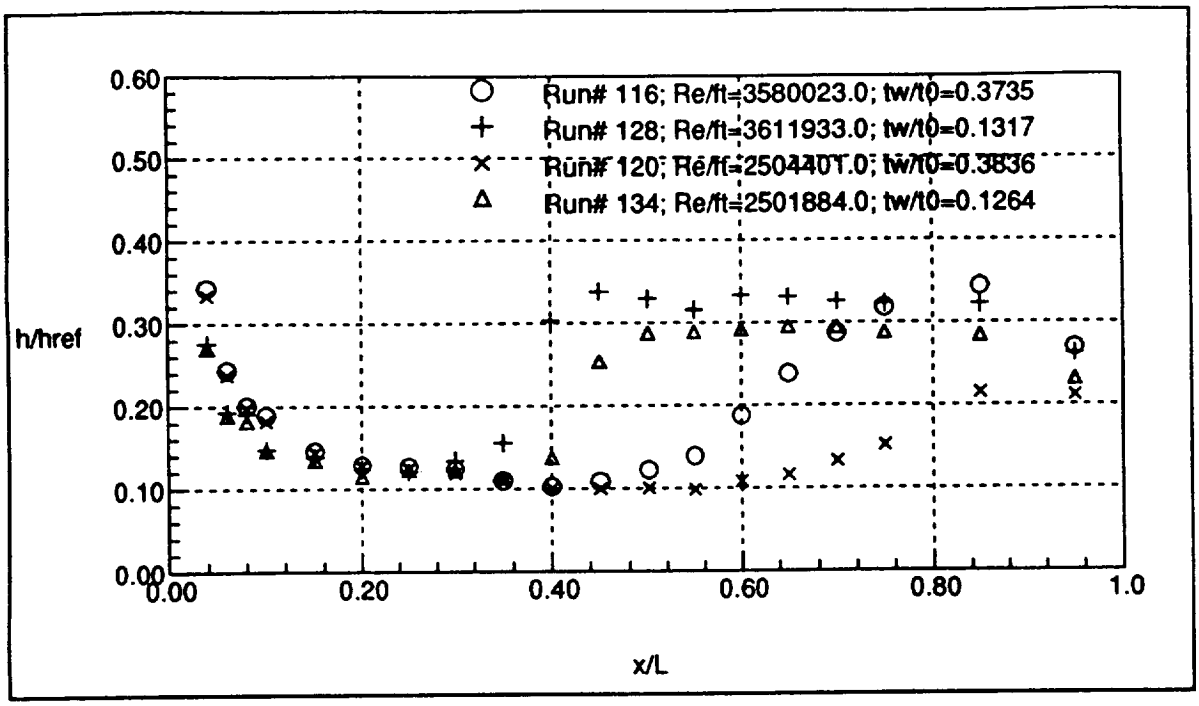


Figure 18 - Effect of Wall Temperature on Smooth-body Transition: Angle-of-Attack = 40°.

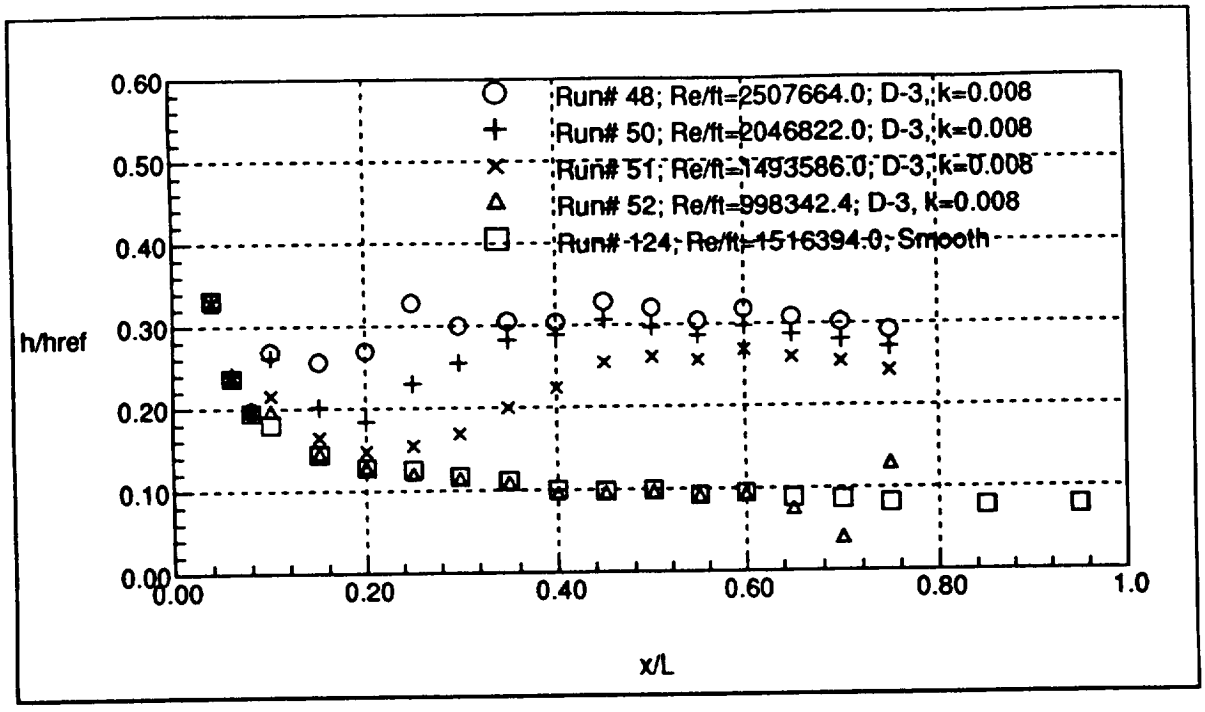


Figure 19 - Effect of Reynolds Number on Discrete Roughness Transition: Angle-of-attack = 40°; $T_W/T_O = 0.4$.

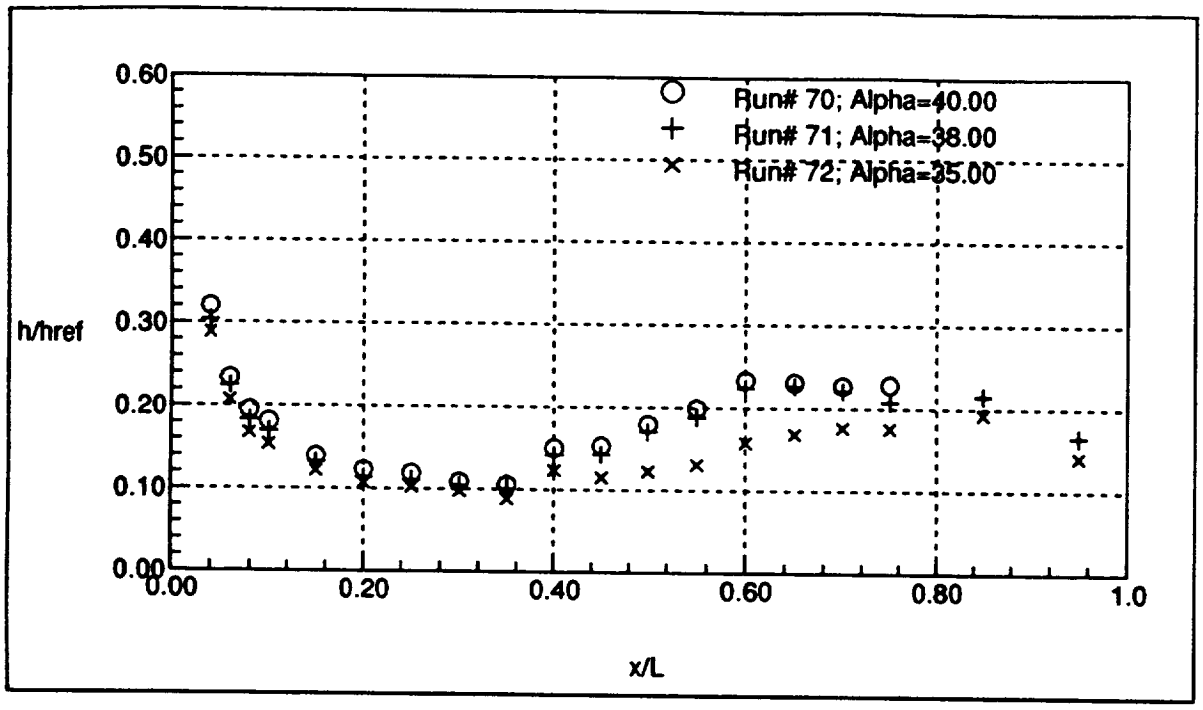


Figure 20 - Effect of Angle-of-Attack on Transition due to Centerline Discrete Roughness (Location G): $Re_{ft} = 1 \times 10^6$; $T_W/T_O = 0.4$.

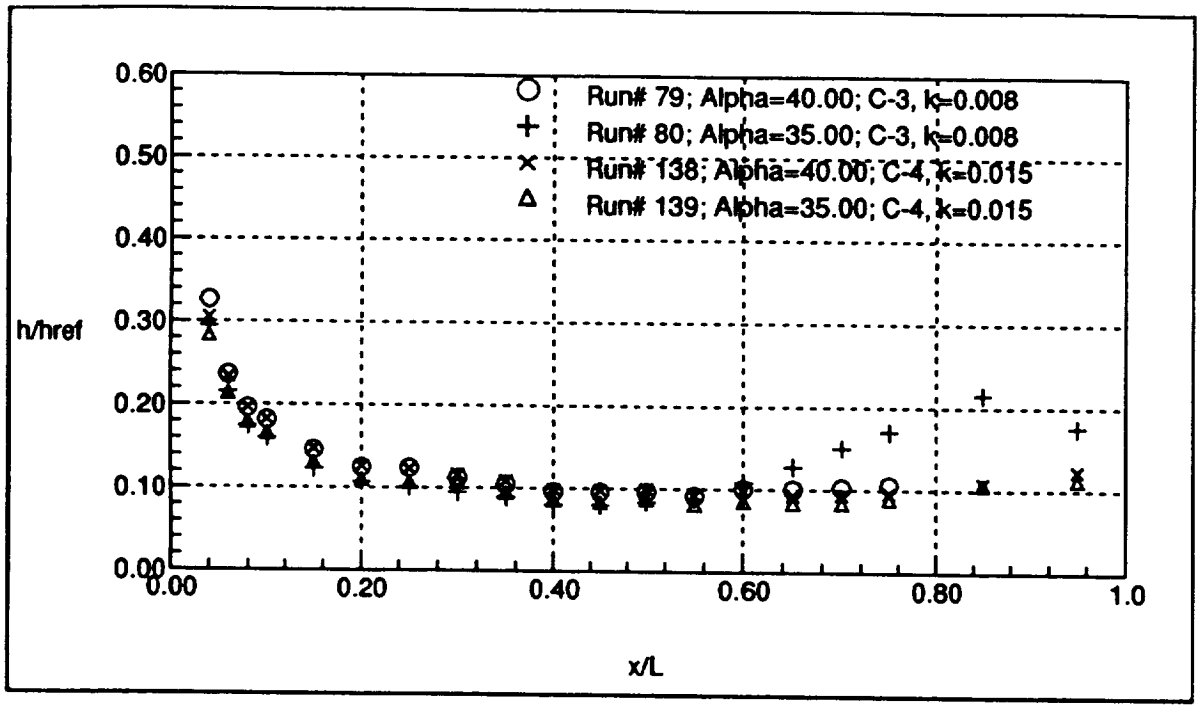


Figure 21 - Effect of Angle-of-Attack on Transition due to Off-centerline Discrete Roughness (Location C): $Re_{ft} = 2 \times 10^6$; $T_W/T_O = 0.4$.

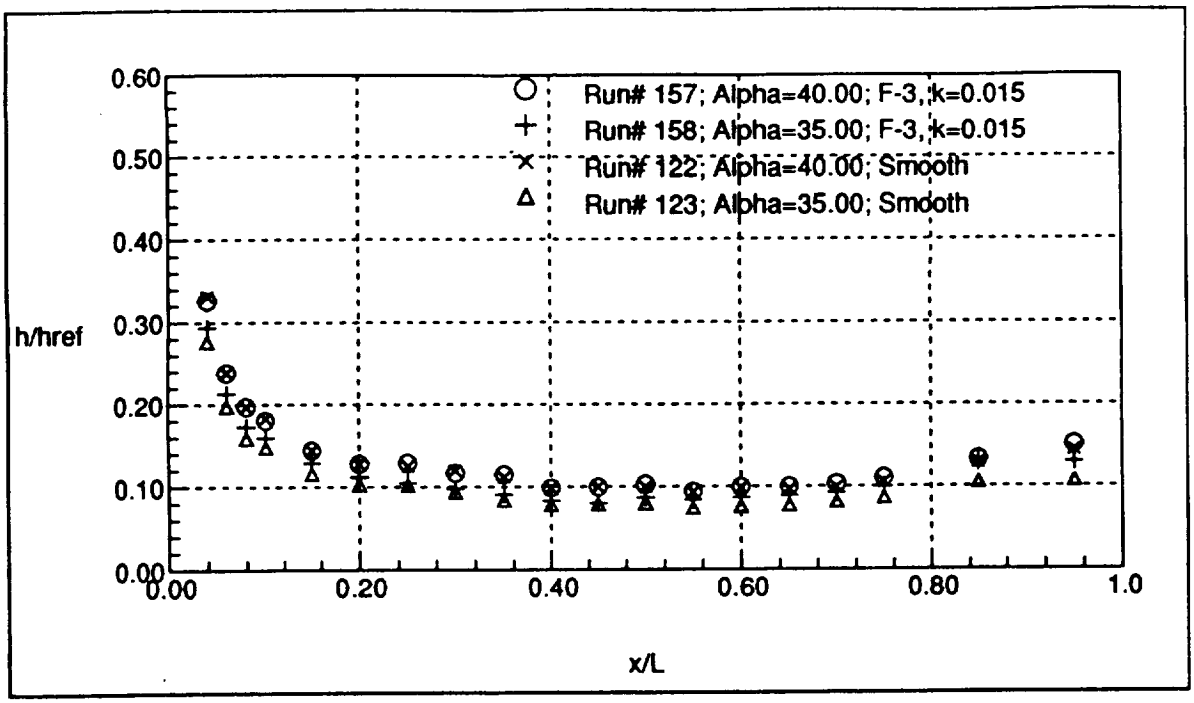
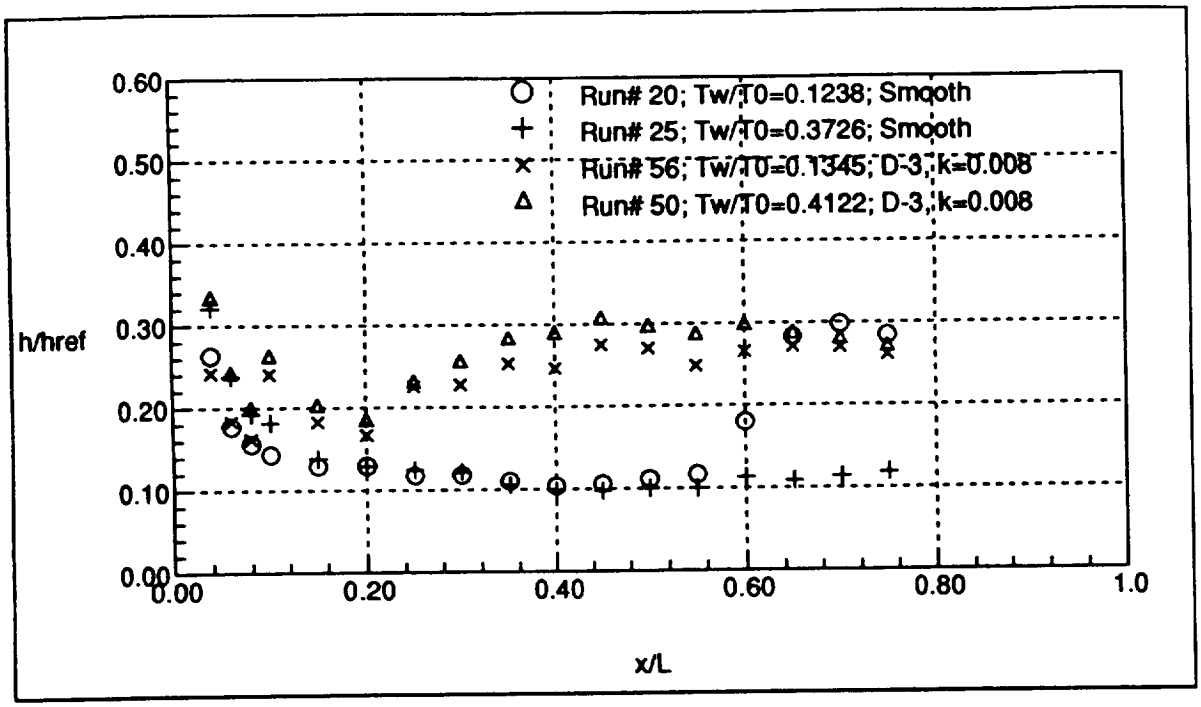
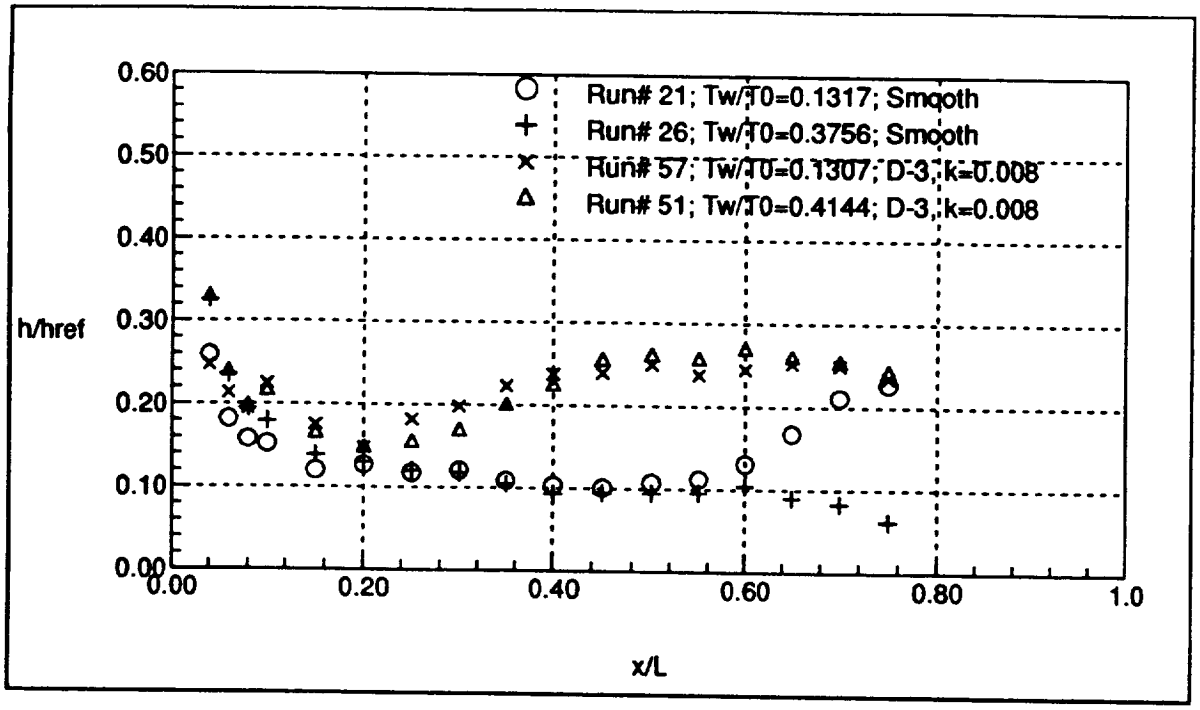


Figure 22 - Effect of Angle-of-Attack on Transition due to Off-centerline Discrete Roughness (Location F): $Re_{ft} = 2 \times 10^6$; $T_W/T_O = 0.4$.



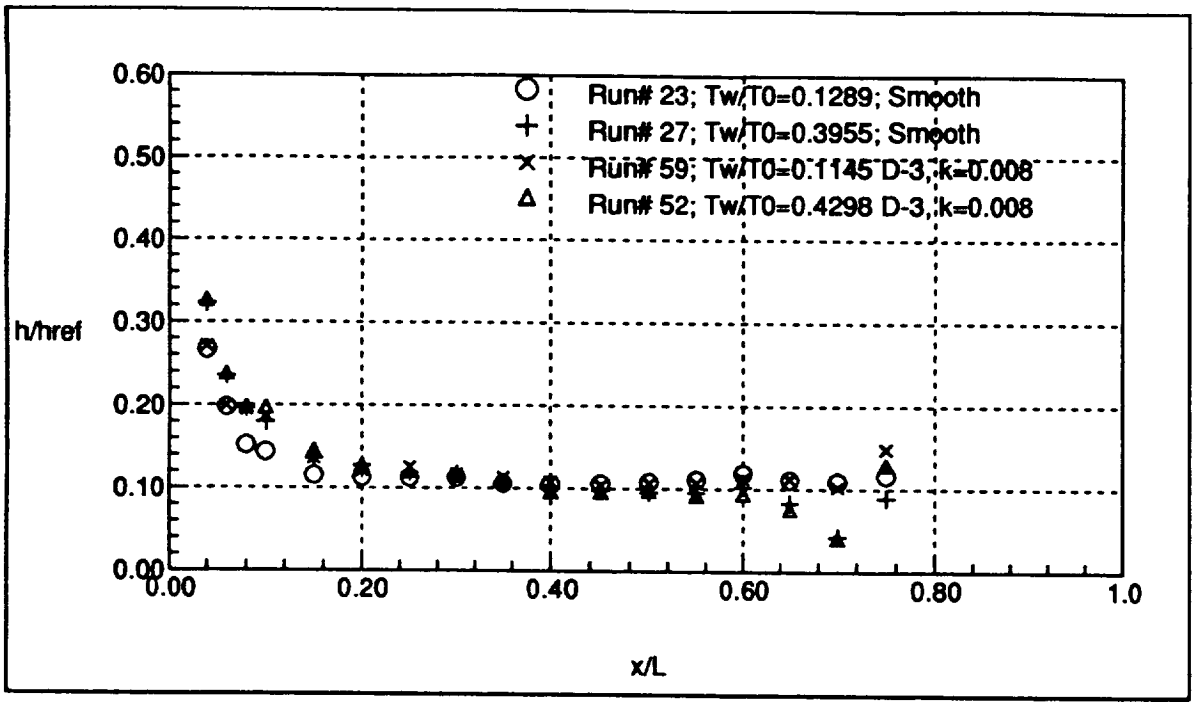
(a) $Re_{ft} = 2 \times 10^6$; Angle-of-attack = 40°

Figure 23 - Effect of Wall Temperature on Transition due to Centerline Discrete Roughness (Location D)



(b) Re_{ft} = 1.5 x 10^6; Angle-of-attack = 40°

Figure 23 - Continued



(c) Re_{ft} = 1 x 10^6; Angle-of-attack = 40°

Figure 23 - Concluded

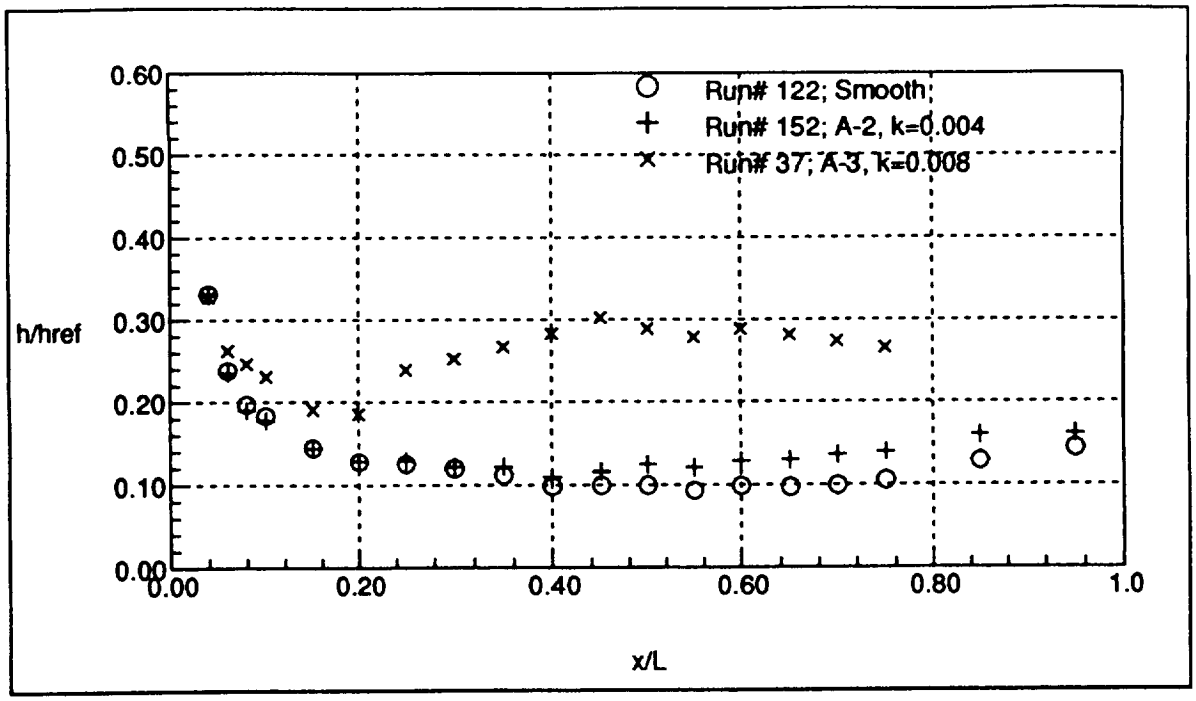


Figure 24 - Effect of Roughness Height on Transition at Location A:
$Re_{ft} = 2 \times 10^6$; Angle-of-attack = 40°; $T_W/T_O = 0.4$

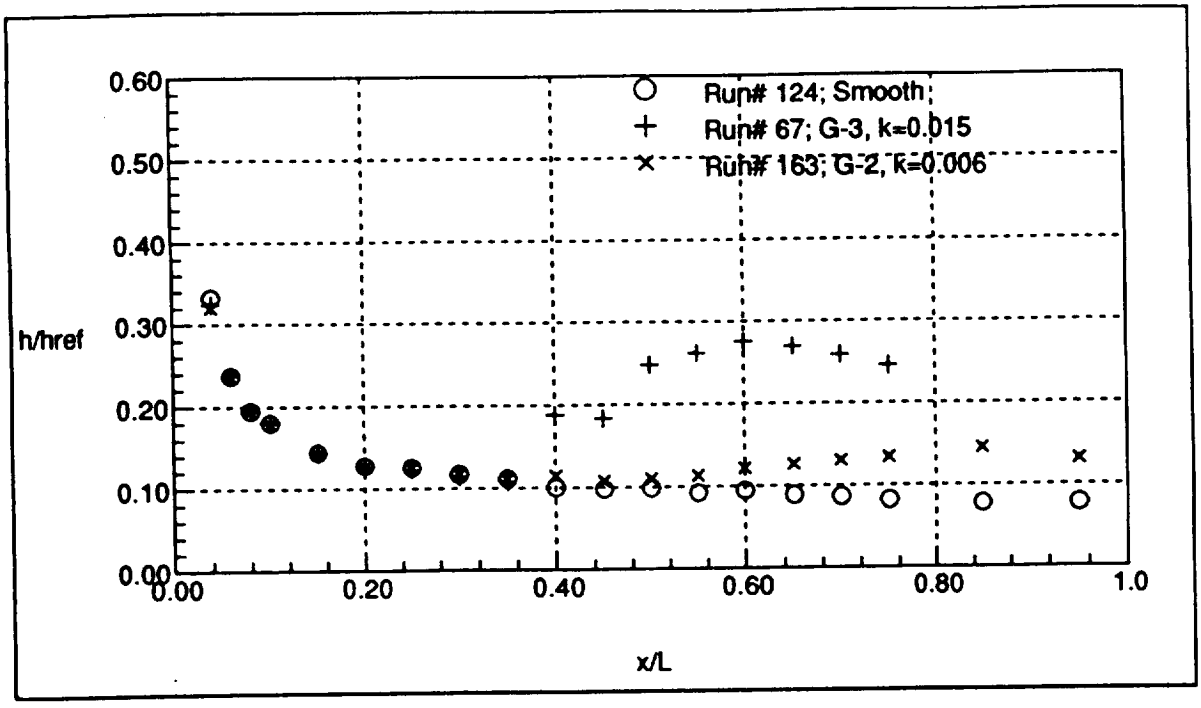


Figure 25 - Effect of Roughness Height on Transition at Location G:
$Re_{ft} = 2 \times 10^6$; Angle-of-attack = 40°; $T_W/T_O = 0.4$

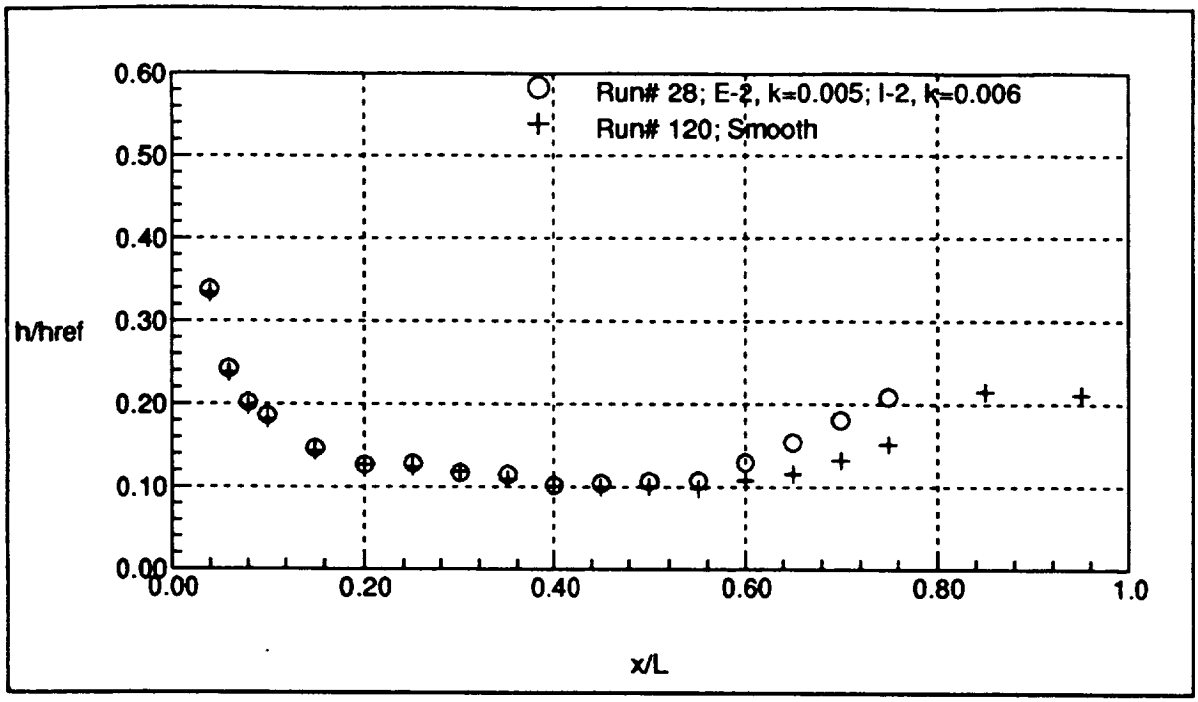


Figure 26 - Effect of Roughness Location on Transition for Locations E and I:
$Re_{ft} = 2.5 \times 10^6$; Angle-of-attack = 40°; $T_W/T_O = 0.4$

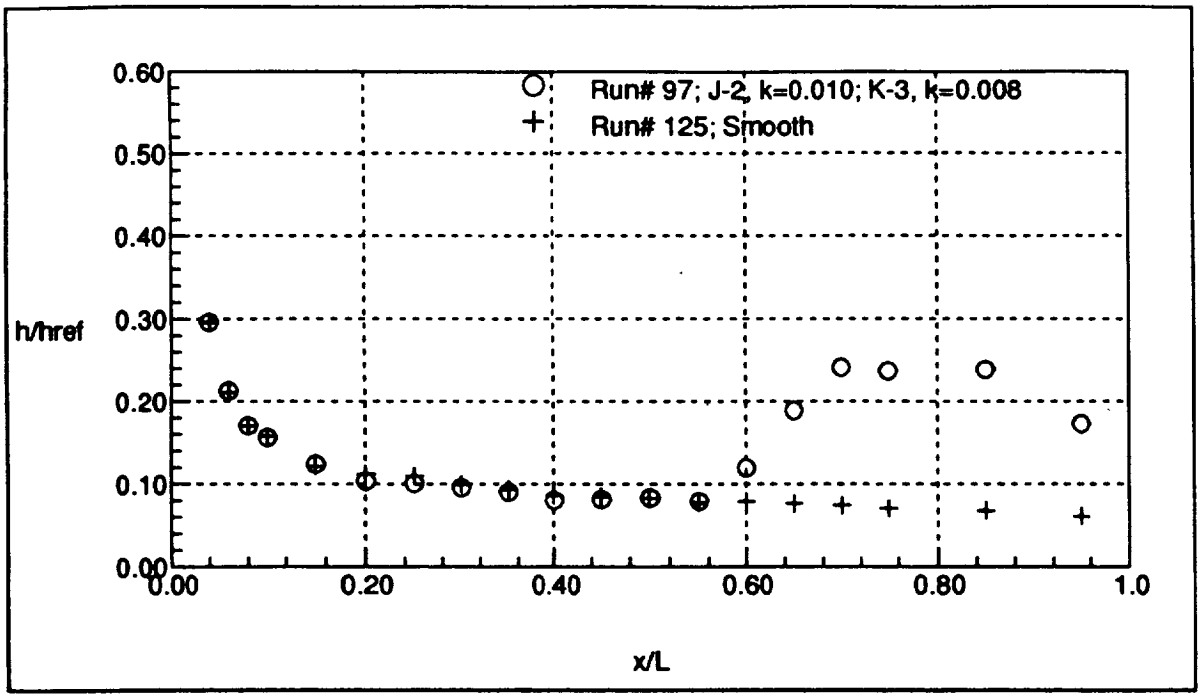


Figure 27 - Effect of Roughness Location on Transition for Locations J and K:
$Re_{ft} = 1.5 \times 10^6$; Angle-of-attack = 40°; $T_W/T_O = 0.4$

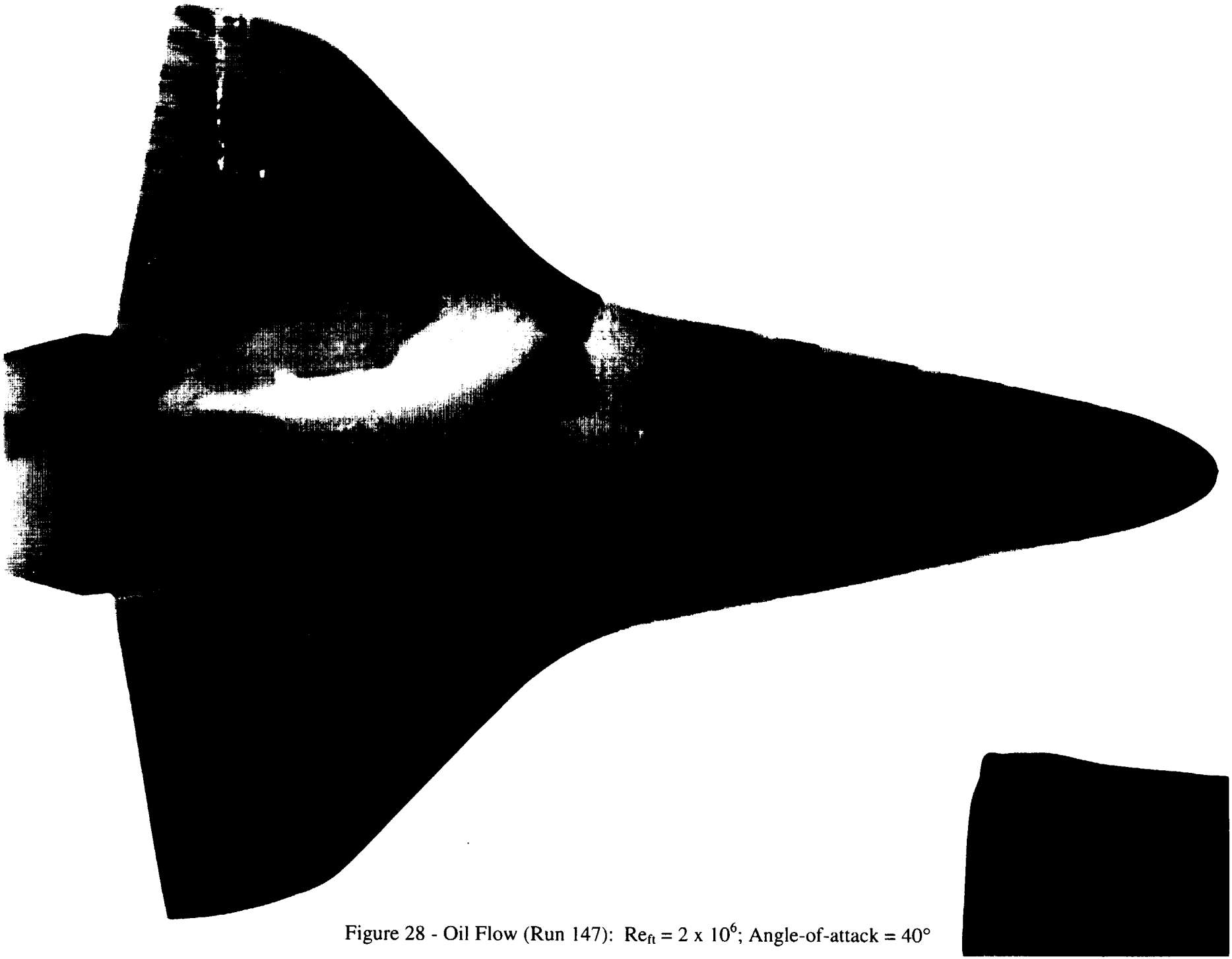


Figure 28 - Oil Flow (Run 147): $Re_{ft} = 2 \times 10^6$; Angle-of-attack = 40°

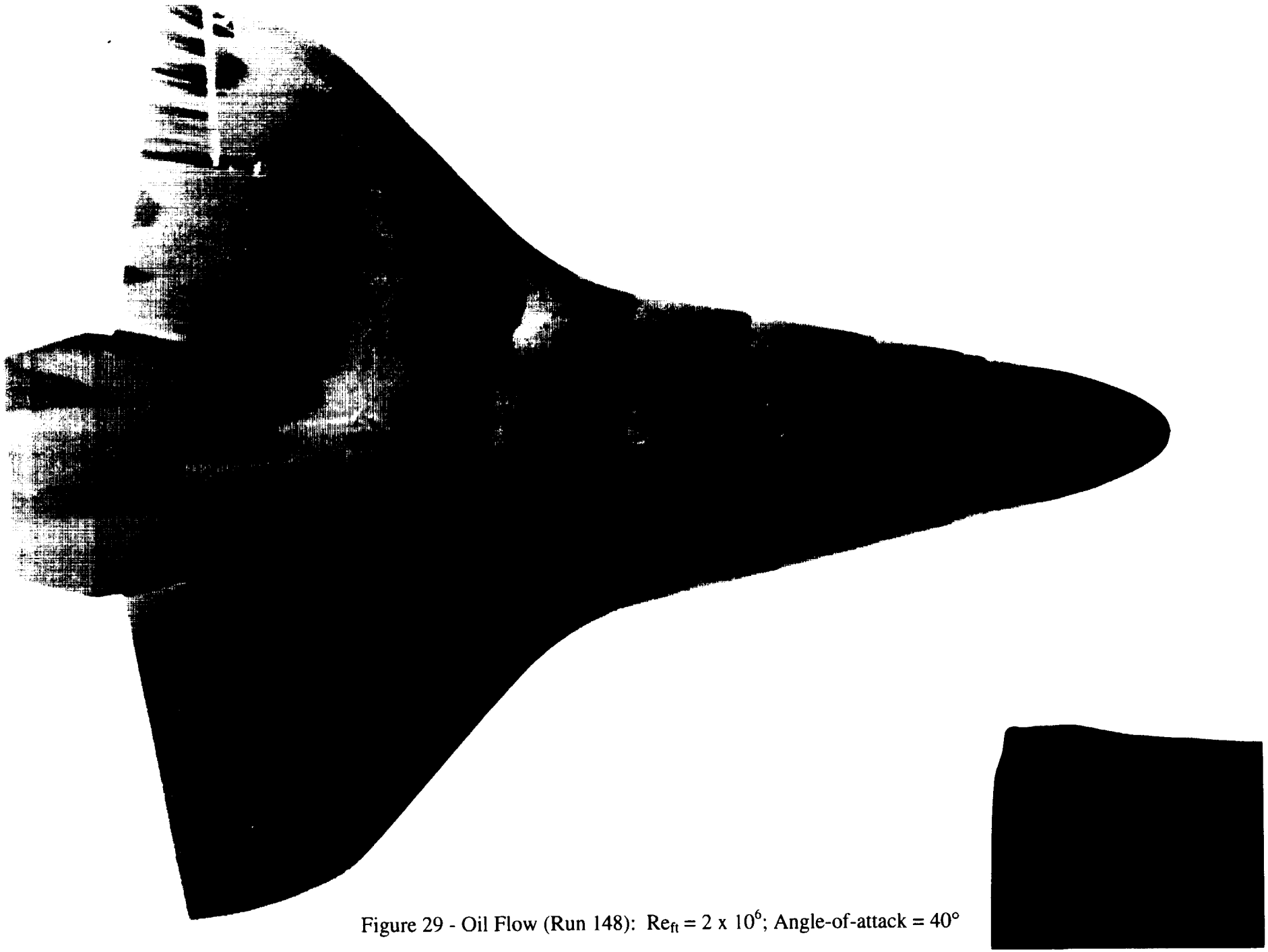


Figure 29 - Oil Flow (Run 148): $Re_{ft} = 2 \times 10^6$; Angle-of-attack = 40°

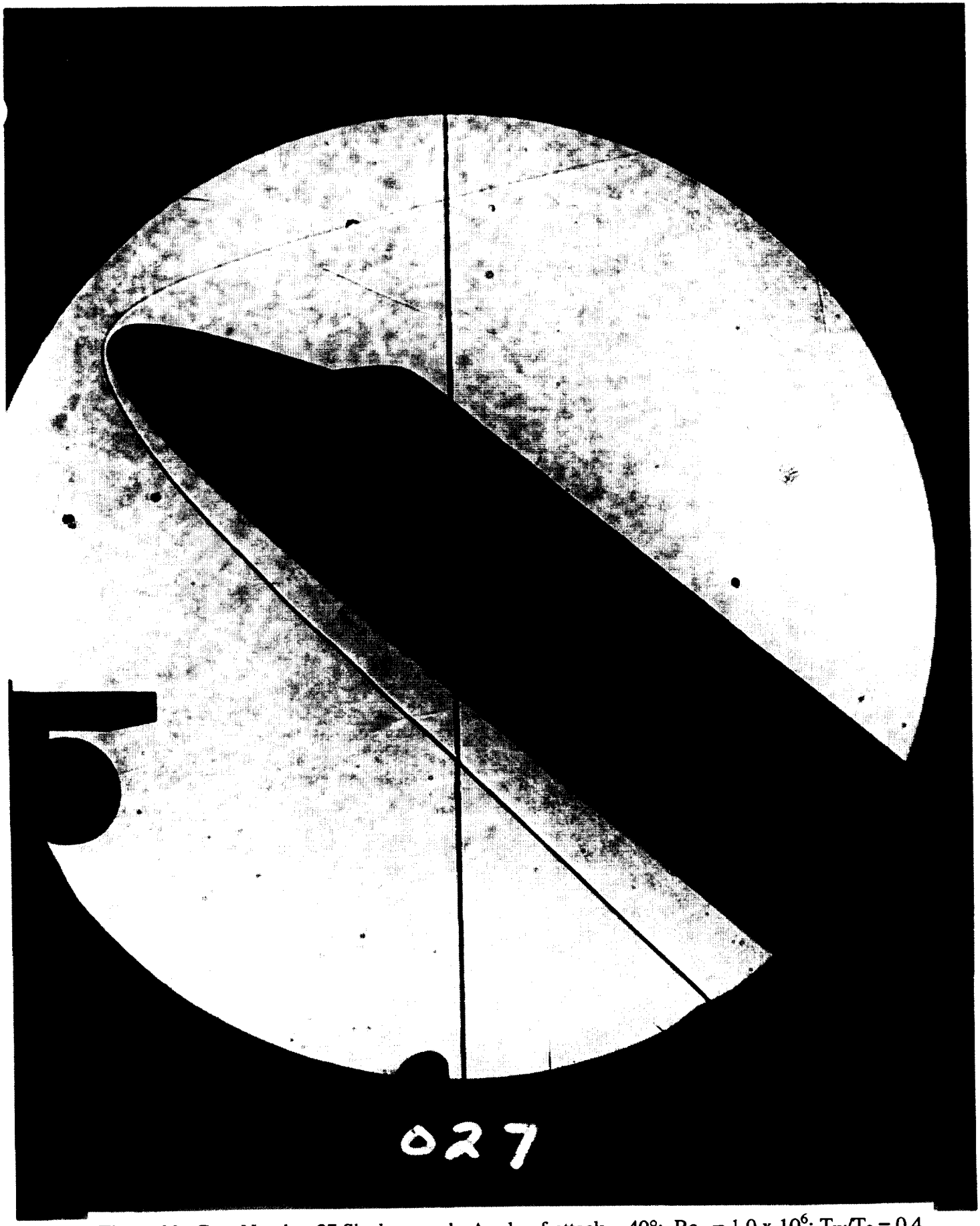


Figure 30 - Run Number 27 Shadowgraph: Angle-of-attack = 40°; $Re_{ft} = 1.0 \times 10^6$; $T_W/T_0 = 0.4$

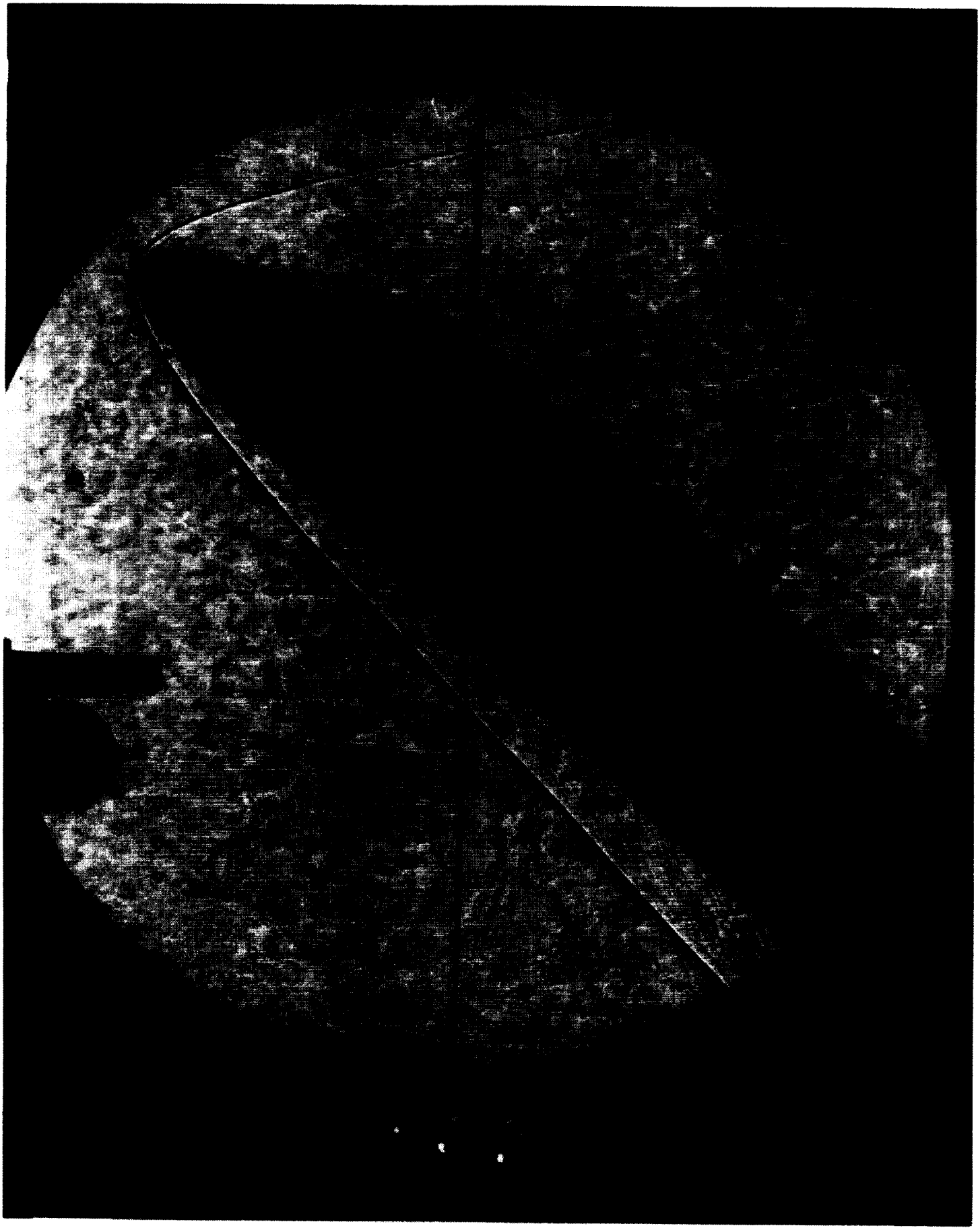


Figure 31 - Run Number 37 Shadowgraph: Angle-of-attack = 40°; $Re_{ft} = 2 \times 10^6$; $T_w/T_0 = 0.4$

Table 1. Locations of Discrete Roughness Elements

ELEMENT	X / L	2Y / B
A	0.050	0.000
B	0.070	0.000
C	0.070	0.030
D	0.090	0.000
E	0.258	0.043
F	0.258	0.107
G	0.375	0.000
H	0.375	0.091
I	0.375	0.146
J	0.575	0.000
K	0.620	0.366

Table 2. Coaxial Gage Locations on Model 29-0

GAGE NO.	X / L	2Y / B
3	0.040	0.000
6	0.060	0.000
7	0.080	0.000
8	0.100	0.000
10	0.150	0.000
16	0.192	0.000
20	0.250	0.000
23	0.300	0.000
30	0.350	0.000
31	0.400	0.000
33	0.450	0.000
34	0.500	0.000
37	0.550	0.000
38	0.600	0.000
40	0.650	0.000
41	0.700	0.000
43	0.750	0.000
46	0.850	0.000
49	0.950	0.000
86	0.125	0.055
11	0.150	0.091
17	0.192	0.107
87	0.300	- 0.106
88	0.300	0.061
89	0.300	0.122
24	0.300	0.160
25	0.300	0.221

GAGE NO.	X / L	2Y / B
90	0.400	- 0.107
32	0.400	0.107
52	0.400	0.250
91	0.425	0.061
92	0.425	0.178
93	0.500	- 0.107
35	0.500	0.107
94	0.500	0.178
53	0.500	0.250
95	0.600	- 0.250
39	0.600	0.107
54	0.600	0.250
98	0.660	- 0.107
96	0.660	0.107
97	0.660	0.250
60	0.660	0.400
65	0.700	0.500
99	0.750	0.178
100	0.755	0.400
101	0.800	- 0.250
45	0.800	0.107
56	0.800	0.250
66	0.800	0.500
70	0.800	0.600
75	0.800	0.750
102	0.886	0.732
103	0.900	- 0.107
57	0.900	0.250

Table 3. Windward Centerline Theoretical (Laminar)Heat Transfer Coefficients, as Provided to AEDC by NASA-JSC

X/L	h/href
.010	.57688658
.011	.52072051
.013	.48464704
.018	.41984923
.022	.38625820
.026	.35899752
.029	.34247355
.033	.31787634
.036	.30135237
.042	.27363140
.051	.24526911
.066	.21103678
.089	.17772501
.112	.15625156
.142	.13744160
.156	.13129229
.178	.12119689
.200	.11412702
.223	.10926034
.241	.10733640
.266	.10449189
.292	.10164738
.313	.09972344
.331	.09816156
.349	.09641865
.385	.09293282
.403	.09091066
.421	.08870746
.448	.08632324
.484	.08329770
.530	.07999290
.584	.07668811
.621	.07430388
.667	.07145938
.704	.06907515
.753	.06687195
.796	.06540830
.842	.05999853
.885	.05200906
.934	.04426995
.975	.04093724

Table 4. Span-wise Theoretical (Laminar) Heat Transfer Coefficients, as Provided to AEDC by NASA-JSC

X/L=0.3			X/L=0.5			X/L=0.8	
Y/(b/2)	h/href		Y/(b/2)	h/href		Y/(b/2)	h/href
.000	.09226319		.000	.07509031		.000	.05802682
.026	.09111468		.034	.07476217		.053	.05764398
.053	.09007556		.067	.07432464		.111	.05726115
.079	.09045840		.099	.07481686		.163	.05775336
.092	.09149752		.115	.07514500		.184	.05808151
.118	.09472427		.146	.07716856		.215	.05819089
.144	.09877138		.177	.07864521		.234	.05709708
.170	.10309194		.208	.08088753		.243	.05720646
.195	.10664684		.234	.08455180		.264	.05709708
.216	.10823287		.255	.09089592		.303	.05857373
.232	.11217060		.279	.09893545		.361	.06376934
.243	.10194344		.299	.10238096		.437	.07306676
.250	.08876298					.527	.08936458
						.618	.10785003
						.699	.12338219
						.767	.13836744
						.821	.15619660

Table 5. Estimated of Data Uncertainties

(a) Measured Parameters

Parameter Designation	Steady-State Estimated Measurement*							Range	Type of Measuring Device	Type of Recording Device	Method of System Calibration
	Precision Index (S)			Bias (B)		Uncertainty ±(B+t95*S)					
	Percent of Reading	Unit of Measurement	Degrees of Freedom	Percent of Reading	Unit of Measurement	Percent of Reading	Unit of Measurement				
ALPHA MODEL, deg		0.025	>30				0.05	±15°	Potentiometer	Analog -to-digital converter into Data Acquisition System	Digital Inclinometer
STILLING CHAMBER PRESSURE, PT, psia		0.10	>30		0.1		0.3	0 to 900	Paroscientific Digit quartz Pressure Transducer	Digital Data Acquisition System	In-place application of multiple pressure levels measured with a pressure measuring device calibrated in the Standards Laboratory
TIME, sec		5×10^{-4}	>30	(Runtime(sec))	< (5 X 10^{-5})	(Runtime(sec))	< (5 X 10^{-5} + 10^{-7}))	msec to 365 days	Systrom Donner time code reader	Digital Data Acquisition System	Instrument lab calibration against NIST
TOTAL TEMPERATURE, TT, °F		1.0 1.0	>30 >30	0.375%	2.0	(0.375% + 2)	4	32 TO 530 530 TO 2300	Chromel®-Alumel® thermocouples	Digital Thermometer into Digital Data Acquisition System	Thermocouple verification of NIST conformity/voltage substitution calibration
E, mv	0.1		>30		0.010	(0.2%+0.01)		0 to 20	Multiverter Preston Amplifier	Digital Data Acquisition Acquisition System / Analog -to-digital converter	Millivolt standard referenced to lab standard
TEMPERATURE,TW, °F		1.0 1.0	>30 >30	0.375	2.000	(0.375% + 2)	4	32 TO 530 530 TO 800	Chromel-Alumel Thermocouple	Thermoplexer/Multiverter/ RADS/VAX 8600	Voltage substitution calibration, secondary standard

Table 5. Concluded

(b) Calculated Parameters

Parameter Designation	Percent of Reading	Unit of Measurement	Percent of Reading	Unit of Measurement	Percent of Reading	Unit of Measurement	Range
MACH		0.015	>30	0+		0.03	8
RE, ft^{-1}	0.53				1.32		$0.75 \times 10^6 ft^{-1}$ $3.7 \times 10^6 ft^{-1}$
P, psia	1.22		0.7		2.51		
Q, psia	.85		.07		1.77		
T, °R	.36		.16		0.88		
V, ft/sec	0.04		.08		0.16		
RHO, lbm/ft^3	0.88		.18		1.94		
MU, $lbf\text{-}sec/ft^2$	0.36		.16		0.88		
H(TT, BTU/ft2-sec-°R (COAX GAGE)	3		3		9		1×10^{-3}

Table 6. As Run Test Matrix

Test Title: NASA MH11

AEDC - Orbiter Transition Test
Run Log

Test Model: Orbiter 29-O

Date: _June 6,1995___

Run	Punch Code	Element	Nom. Mach	Po psia	To °R	Alpha °	Re/ft	Tw/To	Cooling System	Clock Time at Liftoff	Delta Time minutes	Remarks
1	0002	Smooth	8.01	850	1342	40	3.5	Cold	on	14:26	n/a	First Run of Test, cooling time 5 mins w/ 30 psi
2		Smooth				40		Warm	off			Skipped
3		Smooth				40		Warm	off			Skipped, model warm up longer than expected
4	0001	Smooth	8.01	850	1343	40	3.5	Warm	off	15:02	0:36	Pitot:7.05 (H/Href Distribution Nonuniform)
5	0003	Smooth	7.99	706	1335	40	3	Warm	off	15:19	0:17	Good Run, Data transfer problem
6	0005	Smooth	7.97	575	1325	40	2.5	Warm	off	15:39	0:20	
7	0007	Smooth	7.94	456	1315	40	2	Warm	off	15:54	0:15	Gage #34 fluctuating
8	0009	Smooth	7.90	332	1290	40	1.5	Warm	off	16:12	0:18	Gage #34 inoperative
9	0011	Smooth	7.86	206	1254	40	1	Warm	off	16:27	0:15	
10	0011	Smooth	7.86	207	1226	40	1	Warm	off	16:34	0:07	Repeat of Run #9
11	0013	Smooth	7.79	109	1236	40	0.5	Warm	off	17:05	0:31	Unstable shock, bad run
12	0014	Smooth	7.79	122	1274	40	0.6	Warm	off	17:16	0:11	Unstable shock, bad run
13	0015	Smooth	7.81	155	1292	40	0.72	Warm	off	17:26	0:10	Stable shock (SEE COMMENT 1)
14	0016	Smooth	7.99	711	1331	40	3	Warm	off	18:10	0:44	Gage #34 working, transition better
15	0004	Smooth	7.99	710	1340	40	3	Cold	on	18:46	0:36	Possible Frost , most fell off during injection
16	0017	Smooth	7.99	711	1340	40	3	Cold	on	18:59	0:13	Repeat of Run #15 (R#15, SEE COMMENT 2)
17	0006	Smooth	7.96	575	1328	40	2.5	Cold	on	19:21	0:22	Frost, No GN2 on injection
18	0018	Smooth	7.96	577	1320	40	2.5	Cold	on	19:32	0:11	R#17, GN2 on during injection
19	0008	Smooth	7.94	459	1317	40	2	Cold	on	19:55	0:23	
20	0019	Smooth	7.94	459	1317	40	2	Cold	on	20:01	0:06	R#19, LN2 cut off before 2 psia-tank, worked bett.

Comments: 1) After run #13, gages 23 & 34 were smoothed and screw fillers on BC, F, & G repaired and sanded.
2) R### means Repeat of Run ##

Table 6. Continued

Test Title: NASA MH11

AEDC - Orbiter Transition Test
Run Log

Test Model: Orbiter 29-O

Date: _June 6,1995___

Run	Punch Code	Element	Nom. Mach	Po psia	To °R	Alpha °	Re/ft	Tw/To	Cooling System	Clock Time at Liftoff	Delta Time minutes	Remarks
21	OO10	Smooth	7.90	330	1300	40	1.5	Cold	on	20:22	0:21	
22	OO12	Smooth	7.86	207	1237	40	1	Cold	on	20:46	0:24	check for frost
23	OO20	Smooth	7.86	207	1230	40	1	Cold	on	20:52	0:06	R#22
24	OO21	Smooth	7.80	151	1288	40	0.72	Cold	on	21:22	0:30	
25	OO22	Smooth	7.94	459	1321	40	2	Warm	off	21:49	0:27	R#7
26	OO23	Smooth	7.90	330	1290	40	1.5	Warm	off	22:02	0:13	R#8
27	OO24	Smooth	7.86	207	1237	40	1	Warm	off	22:11	0:09	R#9

Comments:

Table 6. Continued

Test Title: NASA MH11

AEDC - Orbiter Transition Test
Run Log

Test Model: Orbiter 29-O

Date: __June 7, 1995__

Run	Punch Code	Element	Nom. Mach	Po psia	To °R	Alpha °	Re/ft	Tw/To	Cooling System	Clock Time at Liftoff	Delta Time minutes	Remarks
8030	4009	E-2,I-2	7.79	111	1261	40	0.5	Warm	off	16:52	n/a	Trying 0.5 million, Unstable shock
28	4001	E-2,I-2	7.97	576	1324	40	2.5	Warm	off	17:22	0:30	
29	4003	E-2,I-2	7.94	464	1324	40	2	Warm	off	17:37	0:15	
30	4005	E-2,I-2	7.90	329	1299	40	1.5	Warm	off	17:56	0:19	
31	4007	E-2,I-2	7.86	207	1239	40	1	Warm	off	18:18	0:22	
32	4002	E-2,I-2	7.94	461	1321	40	2	Cold	on	18:45	0:27	
33	4004	E-2,I-2	7.90	328	1302	40	1.5	Cold	on	19:00	0:15	Start cooling model 40 psia before condition reached
34	4006	E-2,I-2	7.86	206	1247	40	1	Cold	on	19:23	0:23	No de-icing before run/ Frost tripped flow
35	4010	E-2,I-2	7.86	206	1244	40	1	Cold	on	19:28	0:05	R#34, De-iced/Recooled/Results good
36	201	A-3	7.97	575	1321	40	2.5	Warm	off	20:07	0:39	1st Model change during tunnel operation
37	203	A-3	7.94	460	1320	40	2	Warm	off	20:19	0:12	
38	205	A-3	7.90	329	1290	40	1.5	Warm	off	20:35	0:16	No data
39	209	A-3	7.90	329	1288	40	1.5	Warm	off	20:42	0:07	R#38
40	207	A-3	7.86	207	1237	40	1	Warm	off	21:13	0:31	Tunnel Prob.-TDP(DuePoint)=-26.5,<-30 desired
41	202	A-3	7.94	461	1320	40	2	Cold	on	21:41	0:28	Tripped early, refilled left screw hole of A
42	210	A-3	7.94	460	1320	40	2	Cold	on	22:05	0:24	R#41, TDP =-28.7, Data transfer prob.
44	204	A-3	7.90	330	1289	40	1.5	Cold	on	22:25	0:20	TDP = -24
45	206	A-3	7.86	207	1244	40	1	Cold	on	22:40	0:15	TDP = -19.3
46	1301	D-3	7.97	575	1320	40	2.5	Warm	off	23:13	0:33	Model Change #2, Waited on Data, Run Good
47	1301	D-3	7.97	575	1320	40	2.5	Warm	off	23:16	0:03	TDP = -28, Model was not isothermic

Comments: On Run #33, started deicing/ cooling of model 40 psia before the test condition was reached. Model was ready with plenty of time.
On Run #34, modified procedure to start 30 psia before condition reached w/ no deicing; results no good, deicing req'd.
Run #43 was not a run.

Table 6. Continued

Test Title: NASA MH11

AEDC - Orbiter Transition Test
Run Log

Test Model: Orbiter 29-O

Date: June 7, 1995

Run	Punch Code	Element	Nom. Mach	Po psia	To °R	Alpha °	Re/ft	Tw/To	Cooling System	Clock Time at Liftoff	Delta Time minutes	Remarks
48	1301	D-3	7.94	575	1320	40	2.5	Warm	off	23:23	0:07	R#47, TDP = -27
49	1303	D-3	7.94	460	1321	40	2	Warm	off	23:35	0:12	TDP = -22.3, Stopped here due to TDP problems

Comments: Run #47 had questionable wall temp, particulary on nose gage #3 (≈ 95°F)
Run #46, data was recovered but recommend using Run #48 as best of Run 46-48 series.

Table 6. Continued

Test Title: NASA MH11

AEDC - Orbiter Transition Test
Run Log

Test Model: Orbiter 29-O

Date: __June 8, 1995__

Run	Punch Code	Element	Nom. Mach	Po psia	To °R	Alpha °	Re/ft	Tw/To	Cooling System	Clock Time at Liftoff	Delta Time minutes	Remarks
50	1309	D-3	7.94	466	1314	40	2	Warm	off	16:09	n/a	R#49, Gage #8 high, maybe local effect of D
51	1305	D-3	7.90	330	1293	40	1.5	Warm	off	16:23	0:14	
52	1307	D-3	7.86	207	1246	40	1	Warm	off	16:40	0:17	
53	1311	D-3	7.86	205	1245	35	1	Warm	off	16:43	0:03	Fully Laminar
54	1313	D-3	7.86	208	1240	43	1	Warm	off	16:47	0:04	Data corruption worse than 40°
55	1315	D-3	7.86	208	1239	40	1	Warm	off	16:51	0:04	Rolled Model 180°
56	1302	D-3	7.94	461	1320	40	2	Cold	on	17:34	0:43	Delay due to reinstallation of cooling manifold
57	1304	D-3	7.90	328	1290	40	1.5	Cold	on	17:51	0:17	
58	1306	D-3	7.94	240	1261	40	1.14	0.29	off	18:04	0:13	Not a planned run, but data accepted
59	1306	D-3	7.86	208	1250	40	1	Cold	on	18:12	0:08	
60	1308	D-3	7.86	208	1245	35	1	Cold	on	18:19	0:07	
61	2401	G-3	7.96	573	1322	40	2.5	Warm	off	18:55	0:36	
62	2409	G-3	7.96	576	1324	38	2.5	Warm	off	18:58	0:03	
63	2411	G-3	7.96	577	1322	35	2.5	Warm	off	19:00	0:02	
64	2403	G-3	7.94	453	1322	40	2	Warm	off	19:13	0:13	
65	2413	G-3	7.94	459	1321	38	2	Warm	off	19:15	0:02	
66	2415	G-3	7.94	461	1320	35	2	Warm	off	19:18	0:03	
67	2405	G-3	7.90	329	1291	40	1.5	Warm	off	19:30	0:12	
68	2417	G-3	7.90	330	1290	38	1.5	Warm	off	19:33	0:03	
69	2419	G-3	7.90	330	1289	35	1.5	Warm	off	19:35	0:02	

Comments: Coolant system removed for alpha and role capability - check for anomally in the inverted position - Result: still prominant

Table 6. Continued

Test Title: NASA MH11

AEDC - Orbiter Transition Test
Run Log

Test Model: Orbiter 29-O

Date: __June 8, 1995__

Run	Punch Code	Element	Nom. Mach	Po psia	To °R	Alpha °	Re/ft	Tw/To	Cooling System	Clock Time at Liftoff	Delta Time minutes	Remarks
70	2407	G-3	7.86	208	1243	40	1	Warm	off	19:54	0:19	
71	2421	G-3	7.86	213	1242	38	1	Warm	off	19:56	0:02	
72	2423	G-3	7.86	209	1240	35	1	Warm	off	19:58	0:02	
73	2425	G-3	7.80	125	1235	35	0.6	Warm	off	20:16	0:18	
74	2427	G-3	7.80	128	1237	40	0.65	Warm	off	20:19	0:03	
75	2406	G-3	7.86	208	1238	40	1	Cold	on	20:38	0:19	
76	2410	G-3	7.86	208	1238	35	1	Cold	on	20:46	0:08	
77	2408	G-3	7.80	125	1236	40	0.64	Cold	on	21:02	0:16	
78	2412	G-3	7.80	125	1239	35	0.64	Cold	on	21:08	0:06	
79	903	C-3	7.94	459	1318	40	2	Warm	off	21:36	0:28	
80	909	C-3	7.94	459	1318	35	2	Warm	off	21:39	0:03	
81	905	C-3	7.90	330	1291	40	1.5	Warm	off	21:55	0:16	
82	905	C-3	7.90	333	1290	35	1.5	Warm	off	21:56	0:01	
83	911	C-3	7.90	327	1289	35	1.5	Warm	off	21:59	0:03	R#82, Wrong Punch Code
84	907	C-3	7.86	207	1246	40	1	Warm	off	22:12	0:13	
85	913	C-3	7.86	209	1242	35	1	Warm	off	22:14	0:02	
86	904	C-3	7.90	329	1287	40	1.5	Cold	on	22:32	0:18	Tripped flow at centerline
87	916	C-3	7.90	331	1290	40	1.5	Cold	on	22:36	0:04	R#86
88	910	C-3	7.90	333	1291	35	1.5	Cold	on	22:40	0:04	
89	906	C-3	7.86	205	1244	40	1	Cold	on	22:57	0:17	

Comments:

Table 6. Continued

Test Title: NASA MH11

AEDC - Orbiter Transition Test
Run Log

Test Model: Orbiter 29-O

Date: __June 8, 1995__

Run	Punch Code	Element	Nom. Mach	Po psia	To °R	Alpha °	Re/ft	Tw/To	Cooling System	Clock Time at Liftoff	Delta Time minutes	Remarks
90	912	C-3	7.86	209	1242	35	1	Cold	on	23:01	0:04	
91	4401	J-2,K-3	7.96	575	1321	40	2.5	Warm	off	23:36	0:35	Dental plaster fell out on G, J, and K
92	4417	J-2,K-3	7.96	577	1320	40	2.5	Warm	off	23:51	0:15	R#91
93	4403	J-2,K-3	7.96	577	1320	35	2.5	Warm	off	23:54	0:03	
94	4405	J-2,K-3	7.94	456	1322	40	2	Warm	off	0:04	0:10	
95	4407	J-2,K-3	7.94	456	1320	35	2	Warm	off	0:07	0:03	
96	4409	J-2,K-3	7.90	332	1292	40	1.5	Warm	off	0:19	0:12	
97	4411	J-2,K-3	7.90	324	1290	35	1.5	Warm	off	0:22	0:03	
98	4413	J-2,K-3	7.86	207	1250	40	1	Warm	off	0:33	0:11	
99	4415	J-2,K-3	7.86	209	1242	35	1	Warm	off	0:35	0:02	
100	4419	J-2,K-3	7.89	282	1263	35	1.35	Warm	off	0:43	0:08	Special Insertion for this Re. No.
101	4406	J-2,K-3	7.91	331	1290	40	1.5	Cold	on	0:56	0:13	
102	4408	J-2,K-3	7.90	330	1291	35	1.5	Cold	on	1:00	0:04	Frost
103	4418	J-2,K-3	7.90	331	1291	35	1.5	Cold	on	1:07	0:07	R#102, Frost Question, Plaster bump, element E
104	4420	J-2,K-3	7.90	331	1291	40	1.5	Cold	on	1:22	0:15	R#103, Frost Question
105	4422	J-2,K-3	7.90	330	1291	35	1.5	Cold	on	1:25	0:03	R#104, Frost Question
106	4424	J-2,K-3	?	222	1242	35	1.1	Cold	off	1:33	0:08	Special Insertion for this Re. No.
107	4410	J-2,K-3	7.86	206	1240	40	1	Cold	on	1:36	0:03	
108	4412	J-2,K-3	7.86	208	1238	35	1	Cold	on	1:40	0:04	

Comments:

Table 6. Continued

Test Title: NASA MH11

AEDC - Orbiter Transition Test
Run Log

Test Model: Orbiter 29-O

Date: __June 9, 1995__

Run	Punch Code	Element	Nom. Mach	Po psia	To °R	Alpha °	Re/ft	Tw/To	Cooling System	Clock Time at Liftoff	Delta Time minutes	Remarks
8031	4426	J-2,K-3	7.90	331	1287	40	1.5	Warm	off	14:32	n/a	Special-Separation shock check, Results are better
109	4426	J-2,K-3	7.90	331	1302	40	1.5	Cold	on	14:41	0:09	
110	4428	J-2,K-3	7.90	329	1301	35	1.5	Cold	on	14:45	0:04	
111	4430	J-2,K-3	7.86	207	1243	40	1	Cold	on	15:02	0:17	
112	4432	J-2,K-3	7.86	207	1237	35	1	Cold	on	15:06	0:04	
113	4414	J-2,K-3	7.80	127	1240	40	0.65	Cold	on	15:24	0:18	Checkd plaster, paint made it look detached-model o
114	4416	J-2,K-3	7.80	126	1240	35	0.64	Cold	on	15:35	0:11	
115	2400	J-2,K-3	7.93	454	1318	40	2	Warm	off	15:50	0:15	Temperature time run, sep. shock check, 4400
116	25	Smooth	8.01	850	1349	40	3.5	Warm	off	16:16	0:26	
117	27	Smooth	8.01	850	1347	35	3.5	Warm	off	16:20	0:04	
118	29	Smooth	7.99	704	1341	40	3	Warm	off	16:32	0:12	
119	31	Smooth	7.99	704	1336	35	3	Warm	off	16:36	0:04	
120	33	Smooth	7.97	575	1320	40	2.5	Warm	off	16:47	0:11	
121	35	Smooth	7.97	575	1319	35	2.5	Warm	off	16:50	0:03	
122	37	Smooth	7.94	462	1324	40	2	Warm	off	17:01	0:11	
123	39	Smooth	7.94	458	1323	35	2	Warm	off	17:03	0:02	
124	41	Smooth	7.91	334	1294	40	1.5	Warm	off	17:15	0:12	
125	43	Smooth	7.90	330	1292	35	1.5	Warm	off	17:18	0:03	
126	45	Smooth	7.90	628	1321	40	2.74	Warm	off	17:28	0:10	Special Insertion for this Re. No.
127	26	Smooth	8.01	851	1341	40	3.5	Cold	on	17:45	0:17	Plaster fell out on left side of element A

Comments: Run#8031 and after: Model center of rotation changed from 20" forward of the tunnel Aft. C.R. (STA. 29.673, see installation figure) to 10" forward. This raises the model higher into the test section to avoid tunnel wall separation shock. Also, model was painted blu with Dychem for upcoming oil flows. Recommend to wait on paint until needed, Dychem may be causing additional icing problems.

Table 6. Continued

Test Title: NASA MH11

AEDC - Orbiter Transition Test
Run Log

Test Model: Orbiter 29-O

Date: __June 9, 1995__

Run	Punch Code	Element	Nom. Mach	Po psia	To °R	Alpha °	Re/ft	Tw/To	Cooling System	Clock Time at Liftoff	Delta Time minutes	Remarks
128	50	Smooth	8.01	852	1336	40	3.5	Cold	on	18:02	0:17	R#127
129	28	Smooth	8.01	850	1335	35	3.5	Cold	on	18:08	0:06	
130	30	Smooth	7.99	707	1333	40	3	Cold	on	18:20	0:12	Excess Frost
131	52	Smooth	7.99	711	1338	40	3	Cold	on	18:25	0:05	R#130, Again excess frost
132	32	Smooth	7.99	710	1342	35	3	Cold	on	18:34	0:09	Decided to try 35° for this run, run OK
133	54	Smooth	7.99	710	1340	40	3	Cold	on	18:41	0:07	R#130, OK
134	34	Smooth	7.97	575	1318	40	2.5	Cold	on	19:02	0:21	
135	46	Smooth	7.86	210	1237	40	1	Cold	on	19:45	0:43	Manifold change, 40° only, compressor OvHeat prob.
136	56	Smooth	7.86	208	1238	40	1	Cold	on	19:53	0:08	R#135, frost on previous run
137	58	Smooth	7.80	153	1215	40	0.75	Cold	on	20:17	0:24	A, BC, & D fillers repaired after run
138	1001	C-4	7.94	459	1320	40	2.08	Warm	off	20:52	0:35	Model Inverted
139	1003	C-4	7.94	459	1319	35	2.03	Warm	off	20:54	0:02	Model Inverted
140	1021	C-4	7.91	355	1290	40	1.66	Warm	off	21:07	0:13	Model Inverted
141	1005	C-4	7.90	329	1289	40	1.5	Warm	off	21:12	0:05	Model Inverted
142	1007	C-4	7.91	332	1289	35	1.5	Warm	off	21:14	0:02	Model Inverted
143	1023	C-4	7.94	461	1316	40	2	Warm	off	21:35	0:21	Model Inverted
144	1025	C-4	7.94	460	1319	35	2	Warm	off	21:37	0:02	Model Inverted
145	1013	C-4	7.94	462	1320	40	2	Warm	off	21:58	0:21	Oil flows/ No good, oil sheaned
146	1015	C-4	7.94	460	1320	35	2	Warm	off	22:11	0:13	Oil flows/ No good, oil sheaned
147	1027	C-4	7.94	460	1320	35	2	Warm	off	22:23	0:12	Oil flows/ Better- move to 40°

Comments:

Table 6. Concluded

Test Title: NASA MH11

AEDC - Orbiter Transition Test
Run Log

Test Model: Orbiter 29-O

Date: __June 9, 1995__

Run	Punch Code	Element	Nom. Mach	Po psia	To °R	Alpha °	Re/ft	Tw/To	Cooling System	Clock Time at Liftoff	Delta Time minutes	Remarks
148	1029	C-4	7.94	460	1320	40	2	Warm	off	22:32	0:09	Oil flows, OK- Not great
149	1031	C-4	7.94	460	1320	40	2	Warm	off	22:40	0:08	Oil flows, OK- Not great
150	101	A-2	7.96	576	1320	40	2.5	Warm	off	23:01	0:21	
151	103	A-2	7.96	574	1320	35	2.5	Warm	off	23:05	0:04	
152	105	A-2	7.94	462	1321	40	2	Warm	off	23:12	0:07	
153	109	A-2	7.92	377	1296	40	1.71	Warm	off	23:16	0:04	Special Insertion for Re. No. - All Laminar
154	102	A-2	7.94	469	1321	40	2	Cold	on	0:05	0:49	LN2 tank press. too low, have 10 psia needed 30
155	2101	F-3	7.96	576	1320	40	2.5	Warm	off	0:26	0:21	LN2 runs aborted due to lack of pressure
156	2103	F-3	7.96	576	1320	35	2.5	Warm	off	0:30	0:04	
157	2105	F-3	7.94	460	1321	40	2	Warm	off	0:39	0:09	
158	2107	F-3	7.94	458	1321	35	2	Warm	off	0:42	0:03	
159	2117	F-3	7.94	393	1302	35	1.77	Warm	off	0:47	0:05	Special Insertion for Re. No.
160	2109	F-3	7.90	325	1290	40	1.5	Warm	off	0:51	0:04	
161	2111	F-3	7.90	328	1288	35	1.5	Warm	off	0:54	0:03	
162	2305	G-2	7.94	462	1313	40	2	Warm	off	1:09	0:15	
163	2309	G-2	7.90	333	1293	40	1.5	Warm	off	1:16	0:07	
164	2315	G-2	7.89	266	1275	40	1.27	Warm	off	1:20	0:04	
165	2317	G-2	7.86	207	1254	40	1	Warm	off	1:25	0:05	Center of rotation changed back original positon
166	2319	G-2	?	125	1140	40	?	Warm	off	1:40	0:15	Extra run at low Re., See Comments
167	2321	G-2	?	100	1040	40	?	Warm	off	1:48	0:08	Extra run at low Re., See Comments

Comments: Run #165: time temperature run at original model rotation point; looking for separation shock interference.
Runs #166 &167 were special runs at different plant conditions to check flow.
Run 166 may have usefull data but 167 had an unstable shock.

Table 7. Wind Tunnel Test Log

Monday June 5, 1995

8:00 AM - Arrived at Tunnel B after getting Badge at Security. Met with Ken Nutt (x7740) and Joe Donaldson (x7760) who conducted a tour of facility. Model 29-O is installed in the tunnel and work is continuing on the manifold which will be delivering the liquid nitrogen used for cooling the model. This is proceeding well and a test will be run at approximately 1:00 PM to evaluate its effectiveness.

9:00 AM - Met with Carl Kidd to run dunk test on one of the extra thermocouples. This test was requested by Joe Caram due to the unusual design (using sleeves surrounding the thermocouple. The concern is that because the sleeves are actually glued to the model and not the thermocouple, the extreme cycling of temperature could dislodge the thermocouples. The extra thermocouple, (identical to those in the model) was glued to a 1/4" plate of steel with the electrical leads attached to a meter which displayed temperatures in degrees Fahrenheit. This assembly was submersed in liquid nitrogen until the temperature was -320 ° F. It was then taken out and allowed to warm to room temperature. The accuracy of the reading was checked and the gage was examined as to whether it had shifted or become dislodged. This procedure was repeated several times. One iteration included the use of a heat gun to more closely simulate test conditions. The gage showed no sign of becoming dislodged and the readings were consistent. This test took approximately 1 hour.

10:00 AM - Ken Nutt informed me as to the current status of the test. Facility requirements dictate that we will not be blowing air until at least 10:00 AM each day. On Wednesday & Thursday, the test will begin later. Due to a 10 hour per day schedule, several very late nights will be required to complete the test. There is some concern that hurricane Allison (the edge of the storm may hit here) may increase the chances of frost on the model during the test. Due to the need to complete the nitrogen manifold system, fit checks of the roughness elements may not be made until Tuesday morning prior to the start of the test.

12:45 PM - In preparation of the first test of the Liquid nitrogen cooling system, the first configuration roughness elements (all smooth) were installed. Each was checked as to whether the number (marked on one side) or letter (marked on the other side) faced forward. In all cases, the letter (which designates the roughness element location) faced forward. Others will be checked as time permits, but it will be assumed that the letter A - K will face towards the nose.

1:15 PM - Ken Nutt informed me that earlier in the day, continuity checks were made and all data from the thermocouples is correct. The User Room phone number is x6153. The designated test number for this test (AEDC's number) is 2573.

2:20 PM - Tunnel pumped down to 0.789 psi, much better than expected (<2.0 psi). Began spraying the model with liquid nitrogen. Model is partially visible and began frosting up after several minutes of spraying. Gages 3, 8, 16, 23, 34, 38, 41, 46, 49, 25, 53, 54, 56, 75, 87, 93, 95, & 101 were visually monitored during test. These gages can be viewed during each run on video

Table 7. Continued

monitors. During this test most of the gages achieved temperatures of approximately -300 ° F. Some in the area of x/c of 0.65+ showed temperatures of -150 ° F. All gages appeared to record reasonable temperatures. Data system is currently not functioning. The problem is being analyzed and should be resolved soon.

2:42 PM - The test was ended and the model was very frosty looking on the entire lower surface and up onto the sides. Ken Nutt and Joe Donaldson have recognized the need to more evenly cool the model. Currently, the length of time to cool is too long and that time results in the frost. Changes are being made in the manifold to cool the aft portion of the model more effectively.

3:09 PM - The test section was opened and the model examined. The model looks good and no problems are apparent with either the roughness elements of the thermocouples. Various plans are being discussed as to the best way of resolving the variance in cooling different areas.

3:35 PM - Corrective action is now being taken to minimize the cooling issue previously discussed. A shift will be working late tonight drilling extra holes and expanding others in the manifold in the area in question. Tomorrow another test is scheduled along with data system checkout prior to the start of the test.

Tuesday June 6, 1995

8:00 AM - Arrived at Tunnel B and inspected the model. The holes on the center part of the liquid nitrogen cooling manifold have been opened up from 0.040" to 0.060" dia. Additional holes have been drilled in the rear horizontal pipe. Pressure has been increased from 25 to 35 psi. All these changes are efforts to equalize temperature cooling. The rest of the ABLT analysis team has arrived at tunnel B. The members are: Joe Caram - NASA/JSC, Chuck Campbell - NASA/JSC, Paul Romere - NASA/JSC, Stan Bouslog - Lockheed, Scott Berry - NASA/LaRC, and Col. Ken Stetson - USAF Ret.

9:30 AM - Screw holes on model filled with the plaster compound, all look smooth. Model is ready for first run.

10:40 AM - Tunnel pumped down to 0.703 psi.

10:53 AM - Tunnel on conditions.

11:19 AM - Model inserted to check startup loads @ 230 psi. Shock looked solid and no problems occurred.

11:23 AM - Cooling system started, aft areas appear to be cooling more evenly than yesterday. Frosting problems again are occurring and AEDC is playing around with various parameters to find a way to minimize frost. Increasing tank pressure to 4+ significantly reduced the frost.

Table 7. Continued

12:30M - One of two heaters is not functioning, AEDC is attempting to solve the problem. A test was made to see if an injection could be made with the nitrogen system on. The safety doors were frozen and could not be opened. This may be due only to the length of time the nitrogen system has been on (1 hr 18 min). Visual inspection of model showed that all plaster remained in the screw holes.

12:51 PM - Started nitrogen system in preparation for first test point. Heater failure resulted in shutdown of cooling system.

2:11 PM - Started nitrogen system again in preparation for first test point. Injected model at 2:28 PM. No frost appeared on lower surface. Run #1 Punch Code: 0002.

3:00 PM - Discovered what appeared to be 2 t/c plugs on the right outboard wing which had fallen out. We went into the tunnel and examined the model and discovered that what was seen was actually the bottom of the upper panel screws. No changes were necessary or made. A decision was made to make all non-cooled runs in a row because it is a more efficient way of running the test. We will make a series of cold wall tests with the same configuration. Varying Reynolds number is faster than cooling/heating.

4:00 PM - Gage #34 is failing, temperatures are fluctuating + or - 50 ° F before injection. When we get a chance, this gage will be sanded in an effort to fix the gage. Currently we are averaging approximately 20 min. between runs. Also the transition is not moving aft on the centerline and is fixed at X/L = 0.40. There may be a protuberance ahead of gage #31. Roughness element "G" is directly in front of this gage, there also could be a tile height that is excessive. At the next opportunity we will inspect and change if necessary the area.

5:30 PM - Sanded gage #34 and it is working again. Sanded #23 (which was hanging slightly into the flow) and several screw fillers. It appears that model parts are moving around and the possibility exists that the t/c's are dropping into the flow. We will need to monitor these on a regular basis.

6:00 PM - Began series using cooling system. Runs are similar to all previous except for cooling.

6:10 PM - Made a repeat run of #5 (No cooling, Re/ft = 3.0, Po = 710). Confirmed that the fixes to the model worked. The transition issue has been dramatically improved. Data was very different in the X/L = .4 area. At this time 15% of Phase I is complete and 6.2% of the total test is now complete.

7:32 PM - Currently we are making 2.8 runs per hour. Most effective method of using the cooling system and minimizing amount of nitrogen used is to leave nitrogen off during Reynolds Number changes and then inject the model for a short time to eliminate the frost build up. Then cool again followed by the true injection. This method is working well.

Table 7. Continued

9:23 PM - We have completed the first series of runs in Phase I. We are now going to repeat hot runs that had the protuberance problems described at 4:00 PM to see whether the transition point moves more predictably with Reynolds Number. We will plan for the first model change in the morning. E-1 will be replaced with E-2 and I-1 will be replaced with I-2.

10:11 PM - End of run day #1; 27 runs @ 3.07 runs/hr. 25% of Phase I is complete and 10.27% of original Run Matrix is finished. We will begin tomorrow with a model change described above and check model in the X/L area for possible protuberances.

Wednesday June 7, 1995

10:30 AM - Inspected and sanded several t/c's which were hanging down below the OML. These included: #8, 10, 16, 23, 33, 34, 37, 40, 46, 54, 87, 88, & 92. Element AB was also sanded. A 0.0015 feeler gauge was obtained to measure the actual heights of t/c's as they move. It appears that t/c's are moving slowly out of the model. We will attempt to find the source of the problem. This inspection / sanding effort took approximately 1 hour.

11:48 AM - Elements E1 and I1 were replaced with E2 & I2, respectively. Again, the letter designations face forward for these elements. Also, screw holes for elements A, B, C, D, F, J & K were refilled with dental plaster. Left hand inspection cover screws that were an issue yesterday were removed and positions swapped. This solved the depth issue. It was noted that the lower right plug in the right hand side inspection cover is loose, we will monitor. This model change took 42 minutes to complete.

12:30 PM - Photos of the model and facility were taken and took 45 minutes. Details included cooling system from tanks to manifold, model injected and several tunnel related photos.

2:30 PM - Nitrogen cooling manifold was moved closer to model by 3/8" and re-angled to match model angle. The hope is that cooling will be faster due to the distance from the rear of cooling manifold to aft of model.

4:00 PM - Tunnel coming on-line. Hot runs of Series 2 of Phase I will be run first. 4 runs will be made and then we will inspect the model and this will be followed by the cool runs.

5:22 PM - First run of shift.

7:22 PM - Frost build-up tripped flow (Run #34). Will repeat this run. The repositioning of the cooling manifold has improved the time required to cool the model. Rear temperatures drop faster than before.

7:42 PM - Started model change, changed E2 and I2 to E1 and I1 (Smooth body). A3 was installed in place of A1. The entire model was checked and showed that none of the t/cs had moved. The change took 22 minutes and required a heat gun to allow dental plaster to be put in

screw holes. It is necessary to either spend more time in tunnel heating model or use heat gun to eliminate frost prior to change. It would be beneficial if an internal heater was used to heat the model following a cold run prior to model change.

8:19 PM - Dental plaster smeared on nose (Element A3). The thickness was negligible and was wiped away.

9:30 PM - Refilled screw hold of element A. We are planning to run till 2:00 AM. Currently problems in recording test data is holding up test. For this shift we are getting approximately 3.5 runs/hr and 23% of the test (as planned) is complete.

10:50 PM - Made 2nd model change, replaced A3 with A1 and replaced D1 with D3. The change took 15 minutes. The model looked good and nothing seems to be moving around.

11:45 PM - Problems with heaters has forced an end to the testing for now. 21 runs were completed with a run per hour ratio of 3.4 runs/hr. 26% of the original test matrix is now finished.

Thursday June 8, 1995

10:00 AM - Made a detailed inspection of model, nothing appears to be moving around. Discussions as to what runs will be made today. We will continue on the Phase I test matrix except that the last series using I3 will be substituted with J2 (.0010) & K3 (.0080). A decision will be made regarding low Reynolds Number (.70). We expect to get air around 12:00 PM.

12:00 PM - Problem gage #30 has suddenly occurred, the recorded data looks good but the current data is erratic. The plant has no electricity and will be delayed for several hours. The pitoi tube will cause interference problems with the sting if the model is inverted, which is planned sometime today. It has therefore been decided to take it out of the tunnel.

3:00 PM - Cooling manifold was removed in preparation for a planned inverted run.

3:16 PM - Air is turned on, expected to run within 1 hour.

4:09 PM - First shift (Run #50) repeat of Run #49 which had a dew point problem.

4:43 PM - Three consecutive runs were made to make an effort to determine why the flow is not laminar at the lower Reynolds numbers. Run #53 was a repeat of Run #52 (Re = 1.00 & hot wall) except that the angle of attack was reduced to 35°. The flow was completely laminar for the first time of the test. The next run, the angle of attack was increased to 43°. The separation was worse than at 40°. The model was inverted 180° (model angle = 40°) to determine if the early separation was caused by a problem related to the open doors below the model. The test

showed separation was identical to that of the +40° angle data (run #52)> It is unknown what causes the early separation, but the tunnel is symmetrical and is not a cause. Scott Berry of NASA/LaRC suspects a reflected shock is causing the anomaly.

5:00 PM - Cooling manifold was re-attached to get ready for the next cold runs. The model was inspected and is in excellent condition. The t/c's are not moving around.

6:26 PM - Model change #3 was made and took 17 minutes. D3 was replaced with D1 and G1 was replaced with G3. Model was inspected and looked good. The screw holes for J (left) and I (right) were refilled.

6:58 PM - Because of the success of the reduced angle of attack, the next series (perhaps all the series following) will run an angle of attack sweep (35°, 38°, 40°).

8:00 PM - Currently we have made 22 runs (62 total) at a rate of 5.74 runs/hr.

9:15 PM - Model change #4, G3 changed to G1 and B1C1 changed to B1C3. The change took 10 minutes. Inspection of model showed that the model is holding up well and nothing is apparently moving around. Use of heat gun to warm model is very helpful as a sheet of ice rapidly builds up after model comes out of flow.

9:57 PM - Have now completed 28 runs this shift (68 total 40% of test) 5.64 runs /hr and have been running for 4 hrs and 58 minutes this shift.

11:15 PM - Made model change #5, replaced B1C3 with B1C1, replaced J1 with J2 and replaced K1 with K3. The change took 15 minutes. Model inspection revealed that the filler for element G had largely fallen out and was repaired. This series will be the final one of Phase I.

11:35 PM - Made a repair to screw hole filler for K - left screw, G - left screw, and both on J. The repair took 10 minutes. We believe that the model was too cold when the previous change was made. Extra effort needs to be made to keep the model at a warmer temperature.

Friday June 9, 1995

1:40 AM - Final run of shift, 55 runs (95 total - 53.4% of test), 5.84 runs/hr. From first run to last run the delta time was 9 hrs and 25 min.

10:AM - Made a detailed inspection of model, the left screw filler for element A has fallen out. A decision has been made to move the oil flow runs to earlier in the test today. We will be spraying the lower surface with Dykem instead of paint. Carl Kidd has informed us that this will not be a problem for the gages.

Table 7. Continued

12:40 PM - Repaired the left hole of element A and sprayed the lower surface with dark blue Dykem. Ken Nutt has changed the model center of rotation so that the model will be 1" higher in the tunnel during injection. This is an effort to minimize the effect of a suspected shock which may be impinging on the aft end of the Orbiter. We have moved the cooling manifold up closer to the model much like it was prior to the center of rotation change.

1:00PM - Model was inverted and injected into the tunnel so that the photographer can focus his camera prior to the oil flow runs. We expect to get the tunnel running as soon as the photographer is done.

2:08 PM - Tunnel is on-line.

2:40 PM - First run of day. The increased height of model has apparently solved the transition problem at lower Reynolds Number in the .8 X/L location. A shock off the doors is probably the cause.

3:51 PM - Completed first series of runs (54 minutes). Model change #6 going to all smooth. A new procedure was used; the elements are changes and the model is re-inserted to warm the model prior to applying the dental plaster. The temperature should be roughly room temperature for the dental plaster to stay in the holes. J2 was changed to J1 and K3 was changed to K1. The change including the reinsertion took 20 minutes. Dykem is almost completely gone, model preparation for spraying was poor.

4:30 PM - New method of filling screw holes is holding up well.

5:45 PM - Left hole filler of element A fell out. This one fell out at the end of last night. Model was heated in tunnel and then hole was refilled. This fix took 5 minutes. Currently we are averaging 5.5 runs/hr and have 19 good runs.

7:10 PM - Overheating problems in the heaters are preventing us from running at the higher Reynolds Number. We are going to drop down to the lower Reynolds Numbers while we adjust the cooling manifold closer to the model. The manifold is further away than last night and frost is becoming a big problem. It is important that the manifold is 2 inches from the model. The change took approximately 30 minutes and the manifold is 2 inches from the lower surface and the front of the manifold is about 1 inch further forward than the Orbiter nose, like it was yesterday.

8:00 PM - Pits developed in the fillers for elements A, BC, & D. Problems in data revealed the problem. We made several high Reynolds number (3.50), this could be a source of the problem. It may be that the filler in front of the model needs to be "serviced" every few runs.

8:30 PM - Model change #7; replaced B1C1 with B1C4. The change took 10 minutes. It was unnecessary to heat the model in the tunnel because the nose is easily heated by a heat gun.

Table 7. Concluded

9:40 PM - Re-Dykem model in preparation for oil flows. 4 oil flow runs were made and produced streamlines consistent with transition on one side and laminar on the other. The best technique for applying the oil was to apply tiny blotches with a sponge.

10:40 PM - Made model change #8; replaced B1C4 with B1C1 and A1 was replaced with A2. The change took 15 minutes and included re-inverting the model.

Saturday June 10, 1995

12:07 AM - Made model change (10 minutes), changed A2 with A1 and replaced F1 with F3. Pressure problems in cooling system make any further cold wall runs on this shift impossible. Only hot wall tests will be run for the remainder of shift.

12:54 AM - Made model change; replaced F3 with F1 and replaced G1 with G2. The change took 10 minutes.

1:20 AM - Center of rotation changed to the original one we had at the beginning of test for final run which will be a temperature / time.

1:27 AM - Official end of test, 150 runs, 34 hrs 1 min of actual run time (summation of time of first run to time of last run each shift).

1:48 AM - Actual end of test, two extra runs were run as tunnel was being brought down.

Table 8 - Summary of Good Data Runs

(a) Smooth-body Configuration

Roughness Element	Twall (°F)	Alpha (deg)	Re/ft (1×10^6)	Interference Problem	AEDC Run #	JSC ID #
Smooth	70	40	3.5	No	116	s1r25
Smooth	70	35	3.5	No	117	s1r27
Smooth	70	40	3.0	No	118	s1r29
Smooth	70	40	3.0	Yes	14	s1r16
Smooth	70	35	3.0	No	119	s1r31
Smooth	70	40	2.5	No	120	s1r33
Smooth	70	35	2.5	No	121	s1r35
Smooth	70	40	2.0	No	122	s1r37
Smooth	70	40	2.0	Yes	25	s1r22
Smooth	70	35	2.0	No	123	s1r39
Smooth	70	40	1.5	No	124	s1r41
Smooth	70	40	1.5	Yes	26	s1r23
Smooth	70	35	1.5	No	125	s1r43
Smooth	70	40	2.7	No	126	s1r45
Smooth	70	40	1.0	Yes	27	s1r24
Smooth	-300	40	3.5	No	128	s1r50
Smooth	-300	35	3.5	No	129	s1r28
Smooth	-300	40	3.0	No	133	s1r54
Smooth	-300	40	3.0	Yes	16	s1r17
Smooth	-300	40	2.5	No	134	s1r34
Smooth	-300	40	2.5	Yes	18	s1r18
Smooth	-300	40	2.0	Yes	20	s1r19
Smooth	-300	40	1.5	Yes	21	s1r10
Smooth	-300	40	1.0	Yes	23	s1r20
Smooth	-300	40	0.77	No	137	s1r58
Smooth	-300	40	0.70	Yes	24	s1r21

(b) Roughness Elements E-2 and I-2

Roughness Element	Twall (°F)	Alpha (deg)	Re/ft (1×10^6)	Interference Problem	AEDC Run #	JSC ID #
E-2 & I-2	70	40	2.5	Yes	28	s2r1
E-2 & I-2	70	40	2.0	Yes	29	s2r3
E-2 & I-2	70	40	1.5	Yes	30	s2r5
E-2 & I-2	70	40	1.0	Yes	31	s2r7
E-2 & I-2	-300	40	2.0	Yes	32	s2r2
E-2 & I-2	-300	40	1.5	Yes	33	s2r4
E-2 & I-2	-300	40	1.0	Yes	35	s2r10

Table 8. Continued

(c) Roughness Element A-3

Roughness Element	Twall (°F)	Alpha (deg)	Re/ft (1×10^6)	Interference Problem	AEDC Run #	JSC ID #
A-3	70	40	2.5	Yes	36	s3r1
A-3	70	40	2.0	Yes	37	s3r3
A-3	70	40	1.5	Yes	39	s3r9
A-3	70	40	1.0	Yes	40	s3r7
A-3	-300	40	2.0	Yes	42	s3r10
A-3	-300	40	1.5	Yes	44	s3r4
A-3	-300	40	1.0	Yes	45	s3r6

(d) roughness Element D-3

Roughness Element	Twall (°F)	Alpha (deg)	Re/ft (1×10^6)	Interference Problem	AEDC Run #	JSC ID #
D-3	70	40	2.5	Yes	48	s4r1
D-3	70	40	2.0	Yes	50	s4r9
D-3	70	40	1.5	Yes	51	s4r5
D-3	70	40	1.0	Yes	52	s4r7
D-3	70	35	1.0	No	53	s4r11
D-3	70	43	1.0	Yes	54	s4r13
D-3	-300	40	2.0	Yes	56	s4r2
D-3	-300	40	1.5	Yes	57	s4r4
D-3	-96	40	1.1	Yes	58	s4r6
D-3	-300	40	1.0	Yes	59	s4r6
D-3	-300	35	1.0	No	60	s4r8

Table 8. Continued

(e) Roughness Element G-3

Roughness Element	Twall (°F)	Alpha (deg)	Re/ft (1×10^6)	Interference Problem	AEDC Run #	JSC ID #
G-3	70	40	2.5	Yes	61	s5r1
G-3	70	38	2.5	No	62	s5r9
G-3	70	35	2.5	No	63	s5r11
G-3	70	40	2.0	Yes	64	s5r3
G-3	70	38	2.0	No	65	s5r13
G-3	70	35	2.0	No	66	s5r15
G-3	70	40	1.5	Yes	67	s5r5
G-3	70	38	1.5	No	68	s5r17
G-3	70	35	1.5	No	69	s5r19
G-3	70	40	1.0	Yes	70	s5r7
G-3	70	38	1.0	No	71	s5r21
G-3	70	35	1.0	No	72	s5r23
G-3	70	40	0.63	Yes	74	s5r27
G-3	70	35	0.62	No	73	s5r25
G-3	-300	40	1.0	Yes	75	s5r6
G-3	-300	35	1.0	No	76	s5r10
G-3	-300	40	0.62	Yes	77	s5r8
G-3	-300	35	0.62	No	78	s5r12

(f) Roughness Element C-3

Roughness Element	Twall (°F)	Alpha (deg)	Re/ft (1×10^6)	Interference Problem	AEDC Run #	JSC ID #
C-3	70	40	2.0	Yes	79	s6r3
C-3	70	35	2.0	No	80	s6r9
C-3	70	40	1.5	Yes	81	s6r5
C-3	70	35	1.5	No	83	s6r11
C-3	70	40	1.0	Yes	84	s6r7
C-3	70	35	1.0	No	85	s6r13
C-3	-300	40	1.5	Yes	87	s6r16
C-3	-300	35	1.5	No	88	s6r10
C-3	-300	40	1.0	Yes	89	s6r6
C-3	-300	35	1.0	No	90	s6r12

Table 8. Continued

(g) Roughness Elements J-2 and K-3

Roughness Element	Twall (°F)	Alpha (deg)	Re/ft (1×10^6)	Interference Problem	AEDC Run #	JSC ID #
J-2 & K-3	70	40	2.5	Yes	92	s10r17
J-2 & K-3	70	35	2.5	No	93	s10r3
J-2 & K-3	70	40	2.0	Yes	94	s10r5
J-2 & K-3	70	35	2.0	No	95	s10r7
J-2 & K-3	70	40	1.5	Yes	96	s10r9
J-2 & K-3	70	35	1.5	No	97	s10r11
J-2 & K-3	70	35	1.3	No	100	s10r19
J-2 & K-3	70	40	1.0	Yes	98	s10r13
J-2 & K-3	70	35	1.0	No	99	s10r15
J-2 & K-3	-300	40	1.5	No	109	s10r26
J-2 & K-3	-300	35	1.5	No	110	s10r28
J-2 & K-3	-300	40	1.0	No	111	s10r30
J-2 & K-3	-300	35	1.0	No	112	s10r32
J-2 & K-3	-300	40	0.63	No	113	s10r14
J-2 & K-3	-300	35	0.62	No	114	s10r16

(h) Roughness Element C-4

Roughness Element	Twall (°F)	Alpha (deg)	Re/ft (1×10^6)	Interference Problem	AEDC Run #	JSC ID #
C-4	70	40	2.0	No	138	s6r1
C-4	70	35	2.0	No	139	s6r3
C-4	70	40	2.0	No	143	s6r23
C-4	70	35	2.0	No	144	s6r25
C-4	70	40	1.6	No	140	s6r21
C-4	70	40	1.5	No	141	s6r5
C-4	70	35	1.5	No	142	s6r7

Table 8. Concluded

(i) Roughness Element A-2

Roughness Element	Twall (°F)	Alpha (deg)	Re/ft (1×10^6)	Interference Problem	AEDC Run #	JSC ID #
A-2	70	40	2.5	No	150	s3r1
A-2	70	35	2.5	No	151	s3r3
A-2	70	40	2.0	No	152	s3r5
A-2	70	40	1.7	No	153	s3r9
A-2	-164	40	2.0	No	154	s3r2

(j) Roughness Element F-3

Roughness Element	Twall (°F)	Alpha (deg)	Re/ft (1×10^6)	Interference Problem	AEDC Run #	JSC ID #
F-3	70	40	2.5	No	155	s11r1
F-3	70	35	2.5	No	156	s11r3
F-3	70	40	2.0	No	157	s11r5
F-3	70	35	2.0	No	158	s11r7
F-3	70	35	1.8	No	159	s11r17
F-3	70	40	1.5	No	160	s11r9
F-3	70	35	1.5	No	161	s11r11

(k) Roughness Element G-2

Roughness Element	Twall (°F)	Alpha (deg)	Re/ft (1×10^6)	Interference Problem	AEDC Run #	JSC ID #
G-2	70	40	2.0	No	162	s5r5
G-2	70	40	1.5	No	163	s5r9
G-2	70	40	1.2	No	164	s5r15
G-2	70	40	1.0	Yes	165	s5r17

Table 9. List of Runs Not Utilized and Reasons Why

1. **Runs 1 - 13**: Data corrupted due to unintentional roughness at Element G screw-hole filler and possibly B, C, and F. Also, gages 34 and 23 were sanded smooth after Run 13.
2. **Run 15**: Excessive frost on model.
3. **Run 17**: Excessive frost on model.
4. **Run 19**: Possible frost on model.
5. **Run 22**: Possible frost on model.
6. **Run 34**: Excessive frost on model.
7. **Run 38**: No data taken.
8. **Run 41**: Filler fell out of Element A.
9. **Run 43**: No data taken.
10. **Run 46**: Data problems, but may be good data.
11. **Run 47**: Model was not isothermal.
12. **Run 49**: Tunnel dew point was high.
13. **Run 55**: Data probably good. Model was rolled 180°.
14. **Run 82**: Data probably good. Wrong punch code was entered.
15. **Run 86**: Possible frost on model.
16. **Run 91**: Filler fell out of Elements G, J, and K.
17. **Runs 101 - 108**: Possible frost problems on model.
18. **Run 115**: Special run for obtaining temp. history data for interference shock check.
19. **Run 127**: Filler fell out of left side of Element A.
20. **Runs 130 - 132**: Possible frost on model.
21. **Run 135**: Excessive frost on model.
22. **Run 136**: Filler on Element A damaged.
23. **Runs 145 - 149**: Oil flow runs.
24. **Runs 166 - 167**: Data questionable.

APPENDIX A

Comparison of Predicted Laminar Heat Transfer Coefficient Distribution
With MH-11 Measurements

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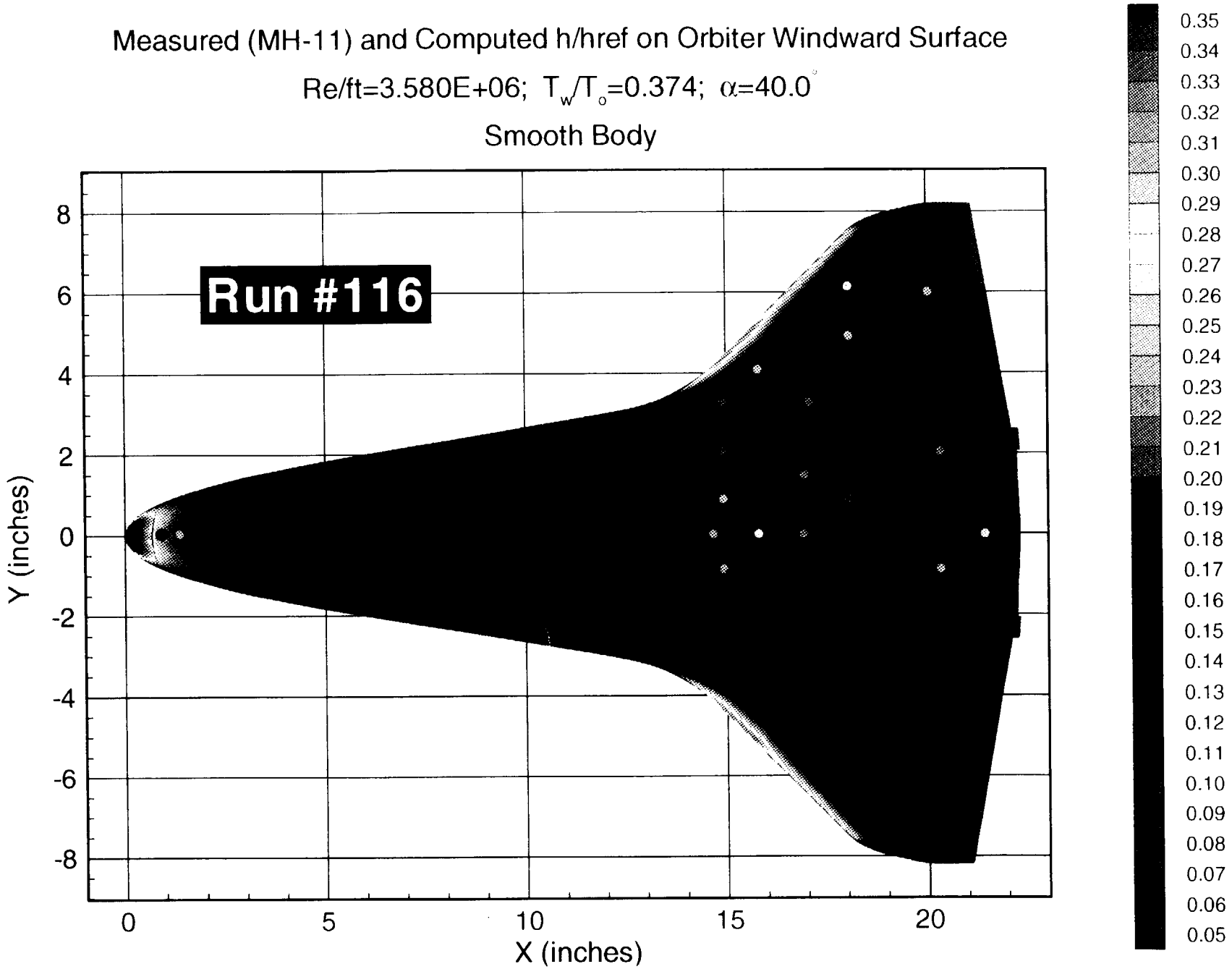


Figure A-1. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

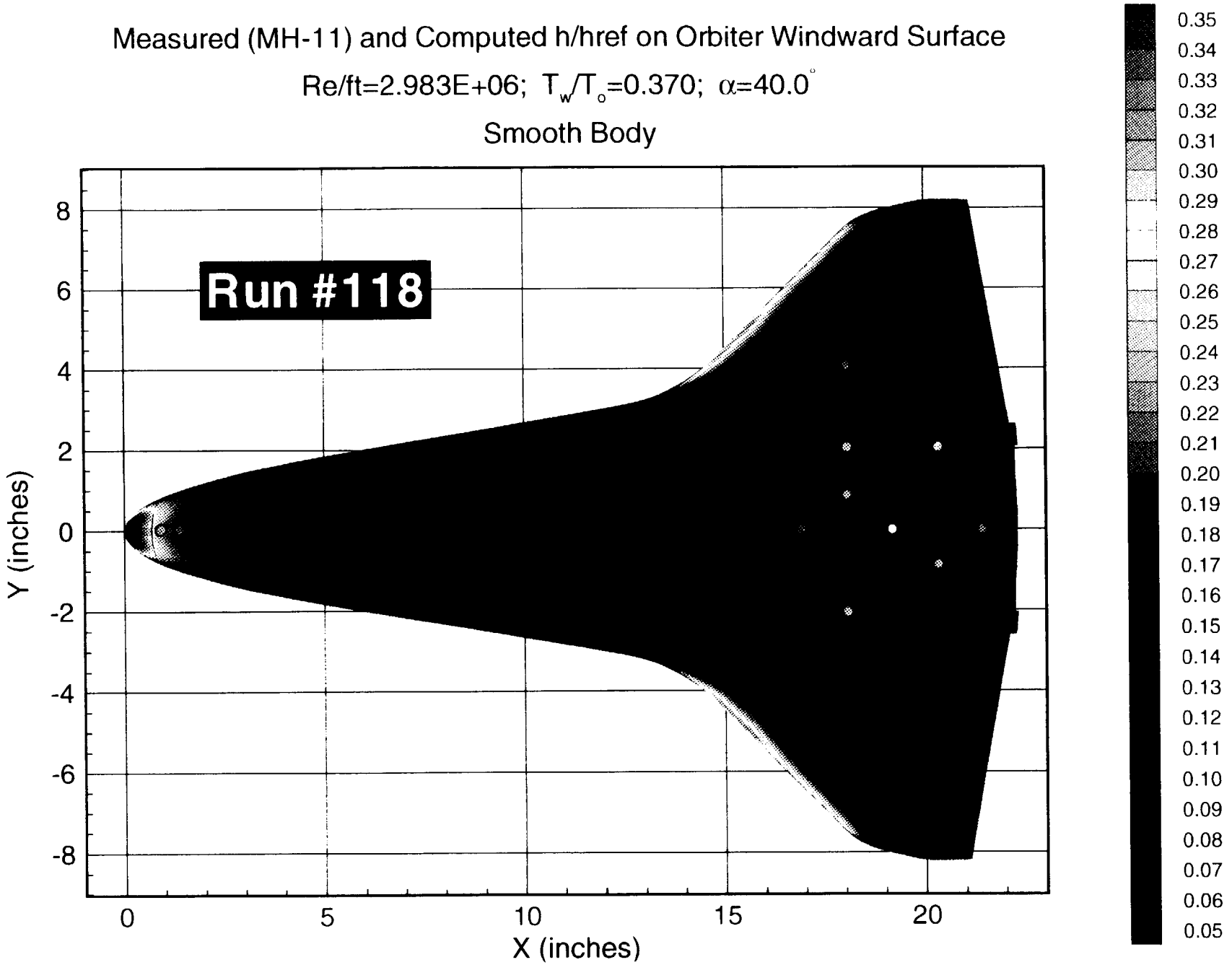


Figure A-2. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

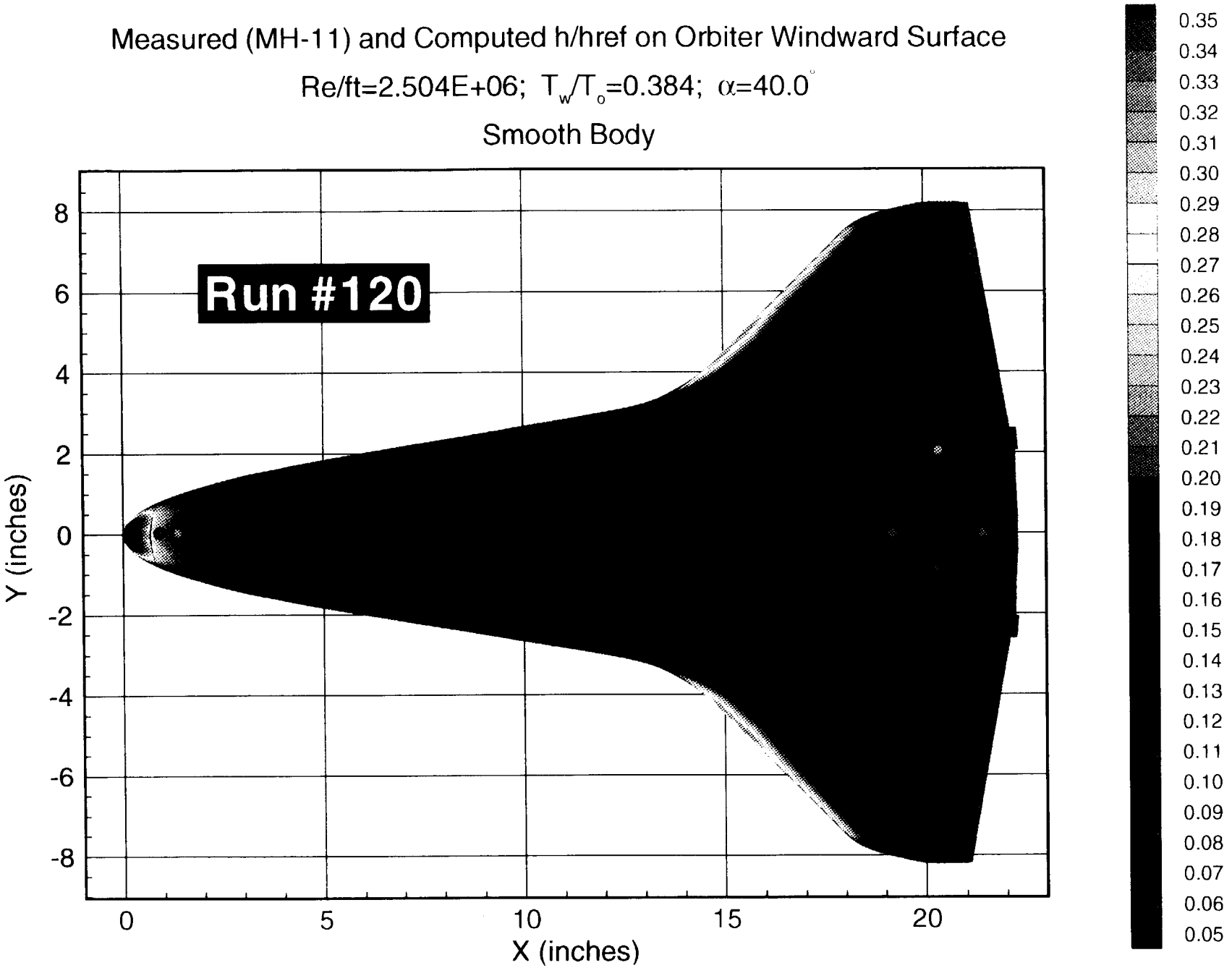


Figure A-3. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

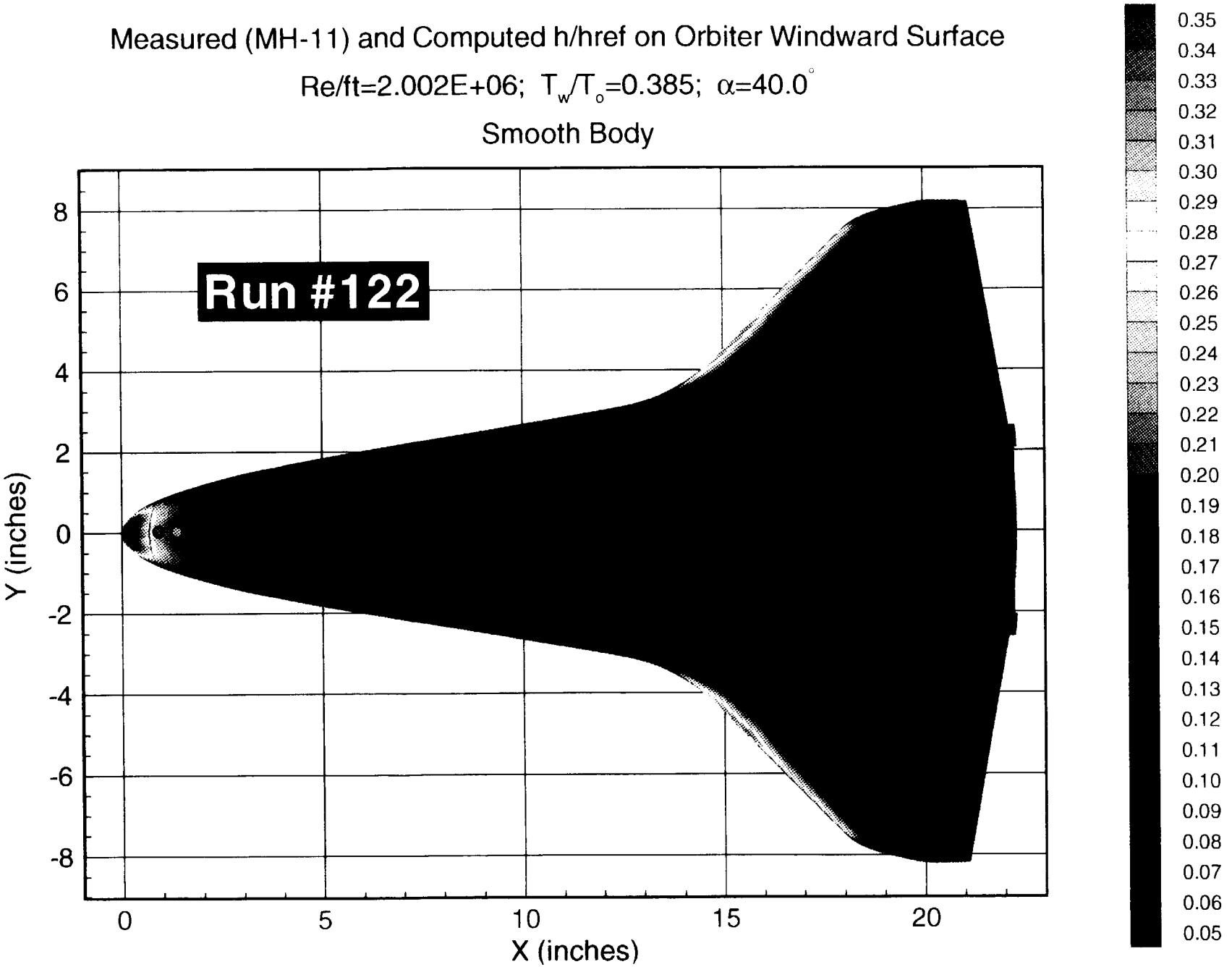


Figure A-4. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

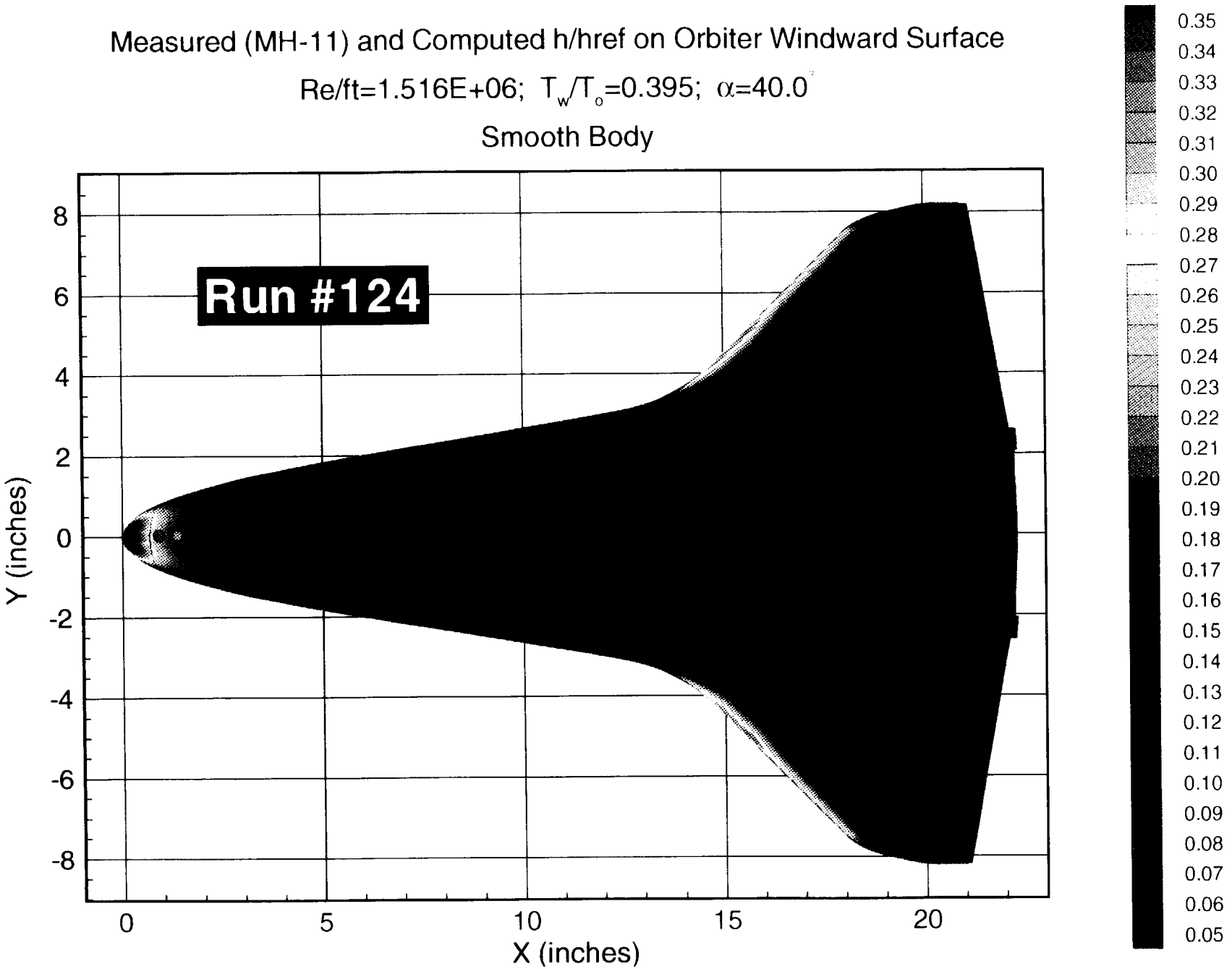


Figure A-5. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

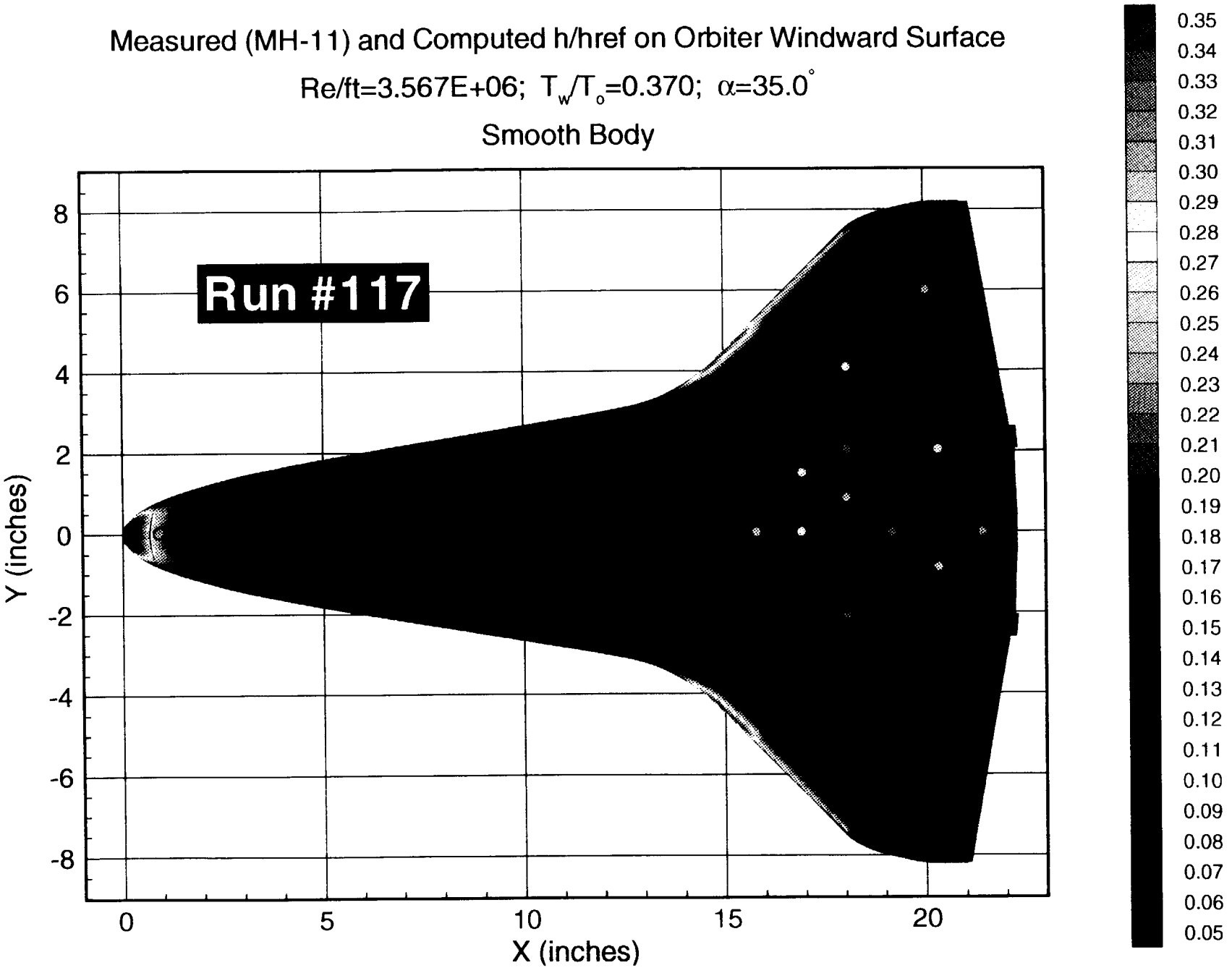


Figure A-6. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

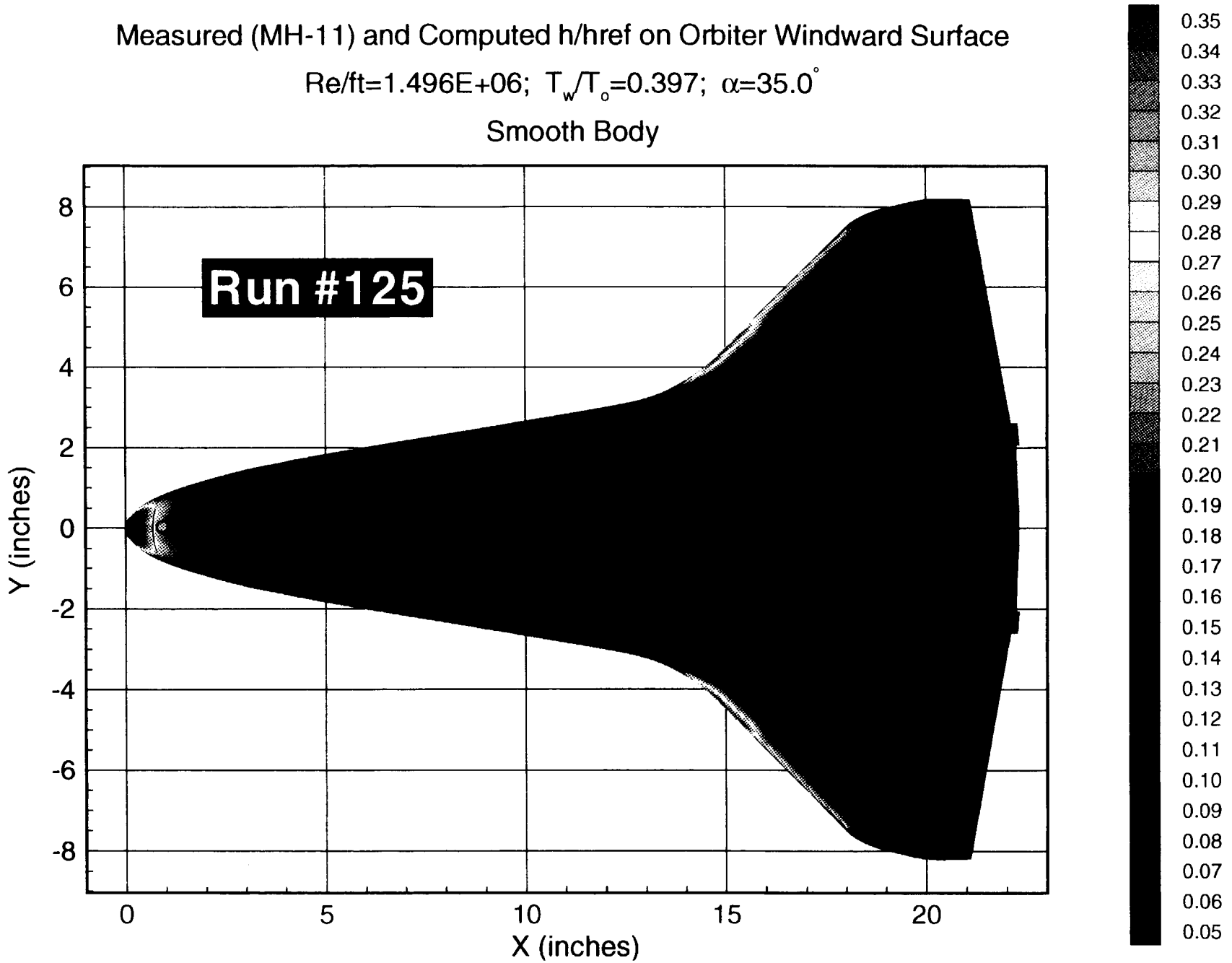


Figure A-7. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

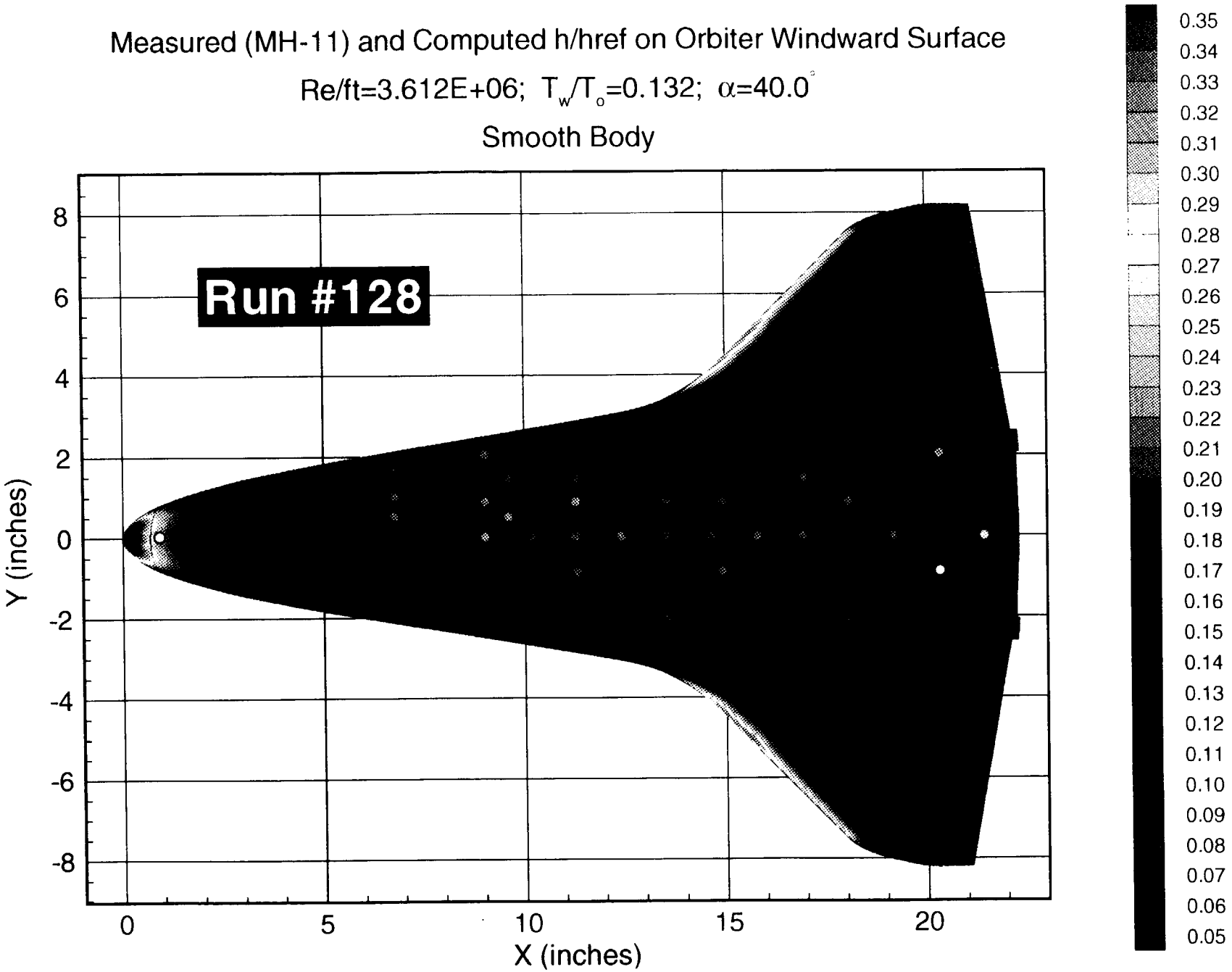


Figure A-8. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

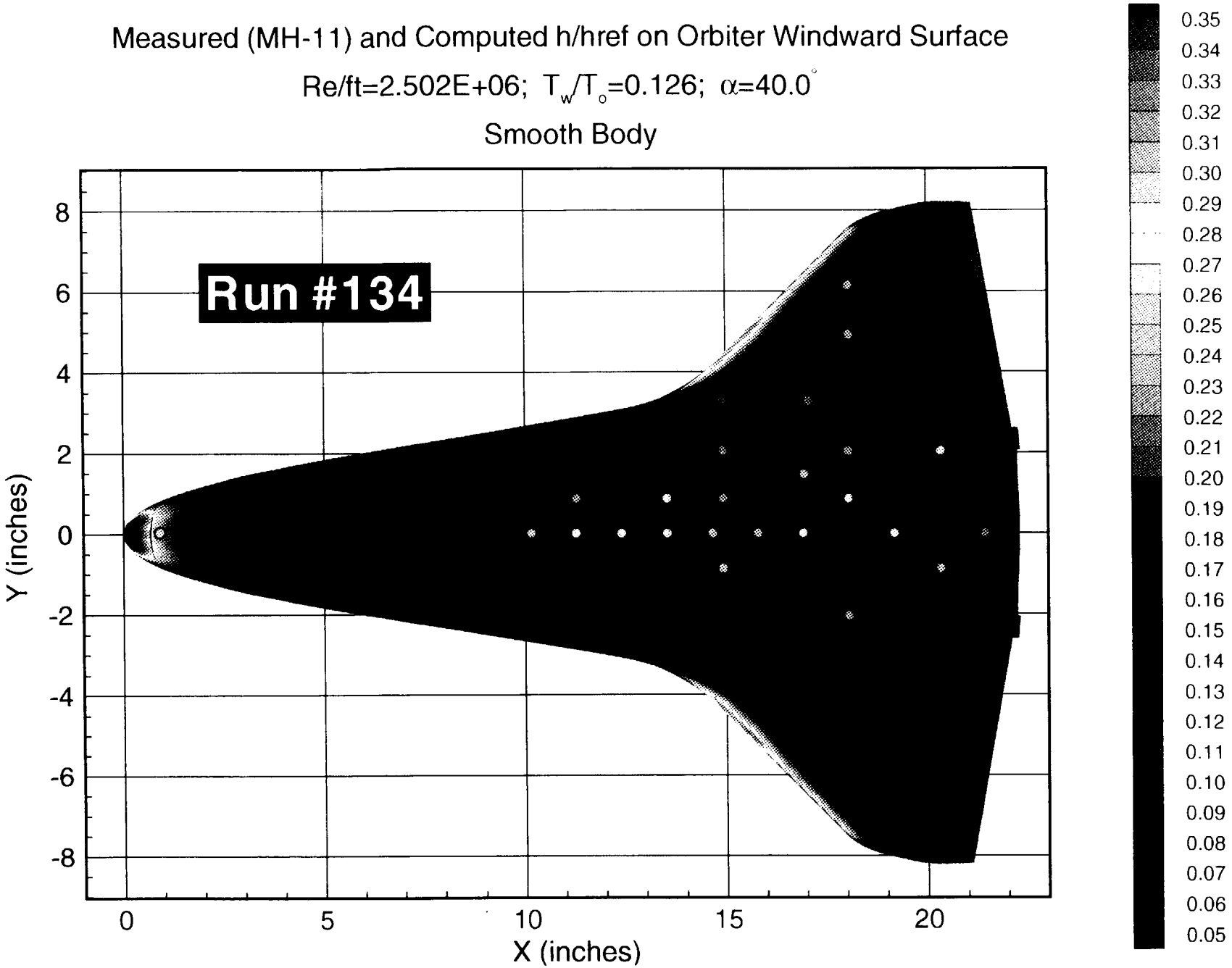


Figure A-9. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

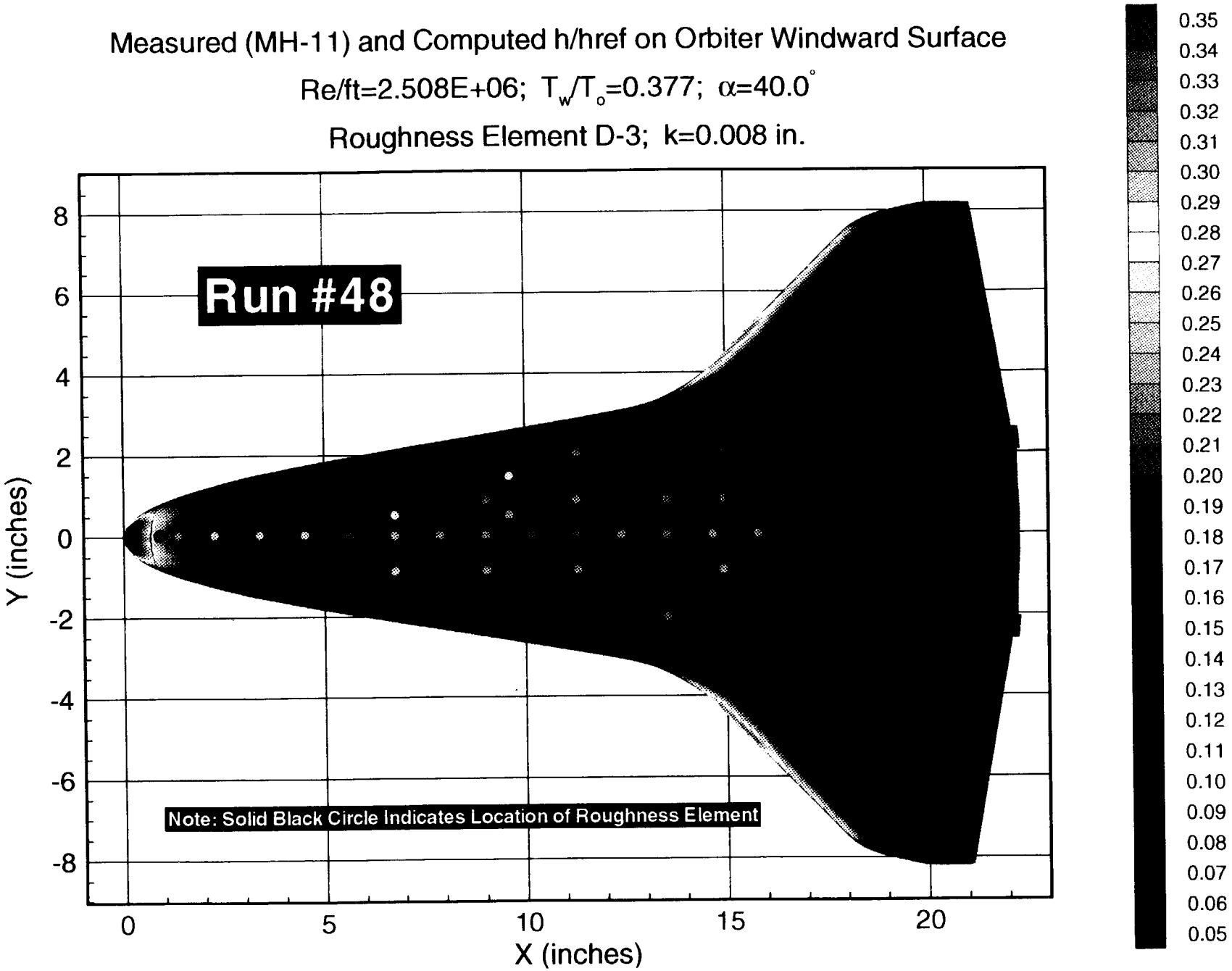


Figure A-10. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

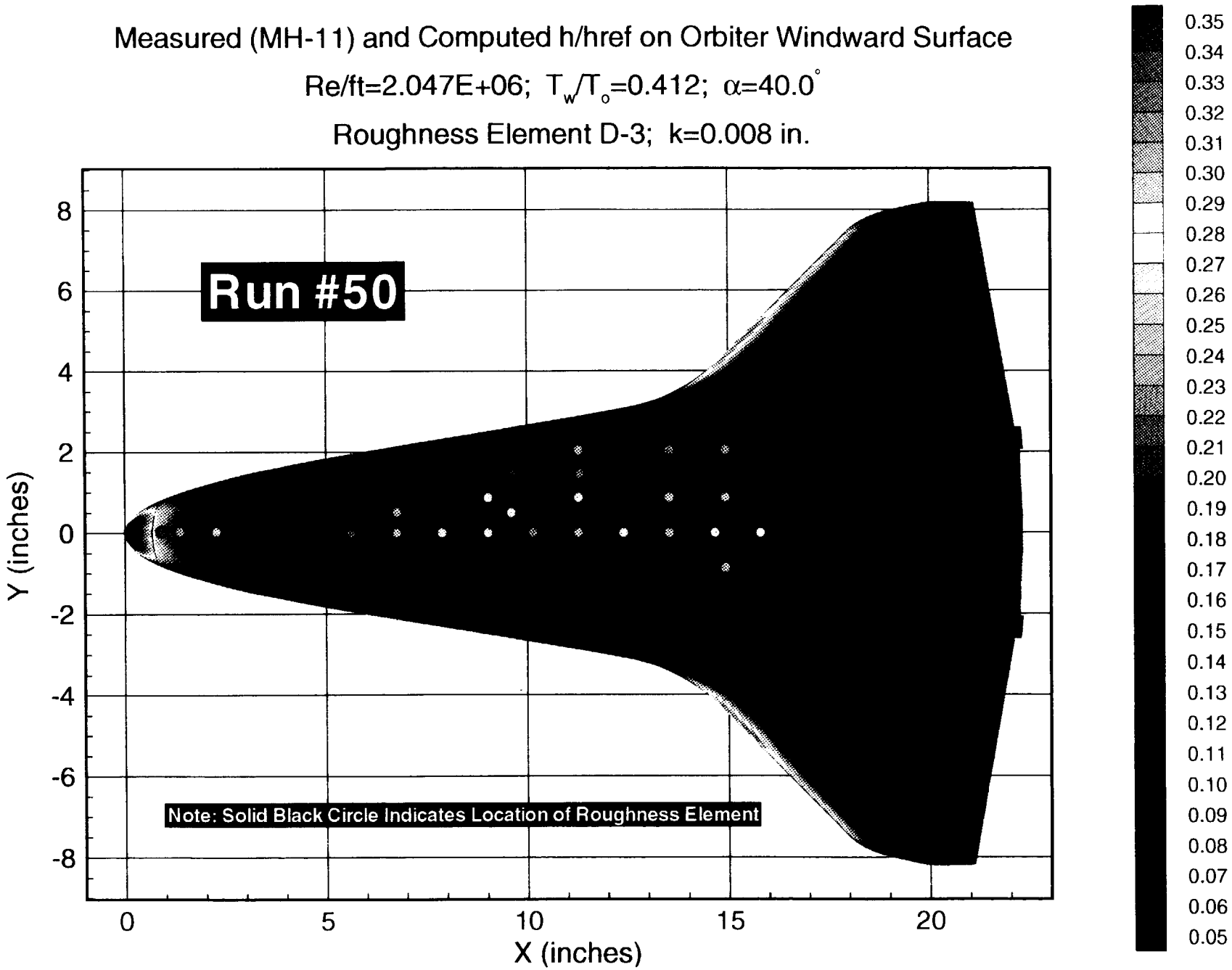


Figure A-11. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

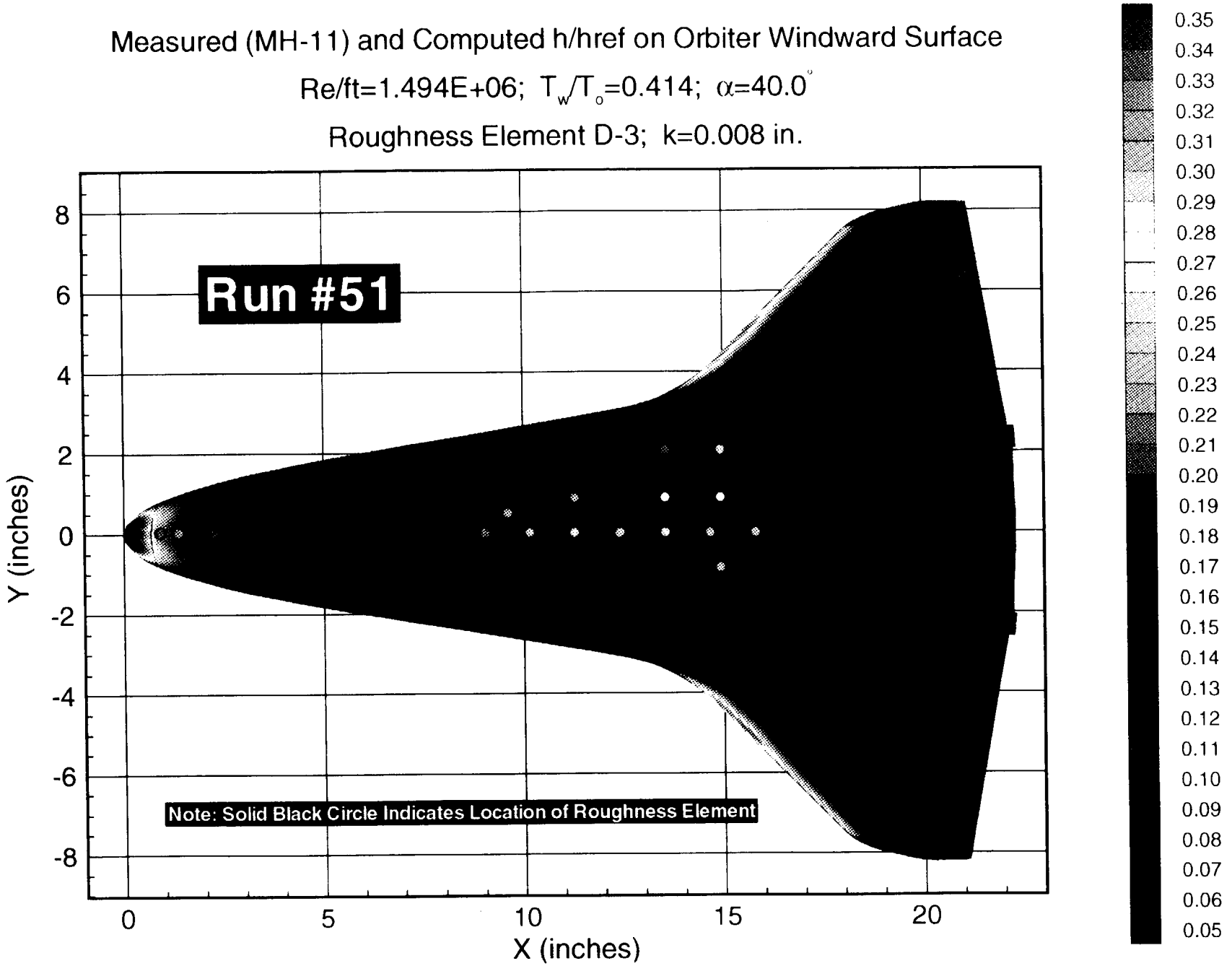


Figure A-12. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

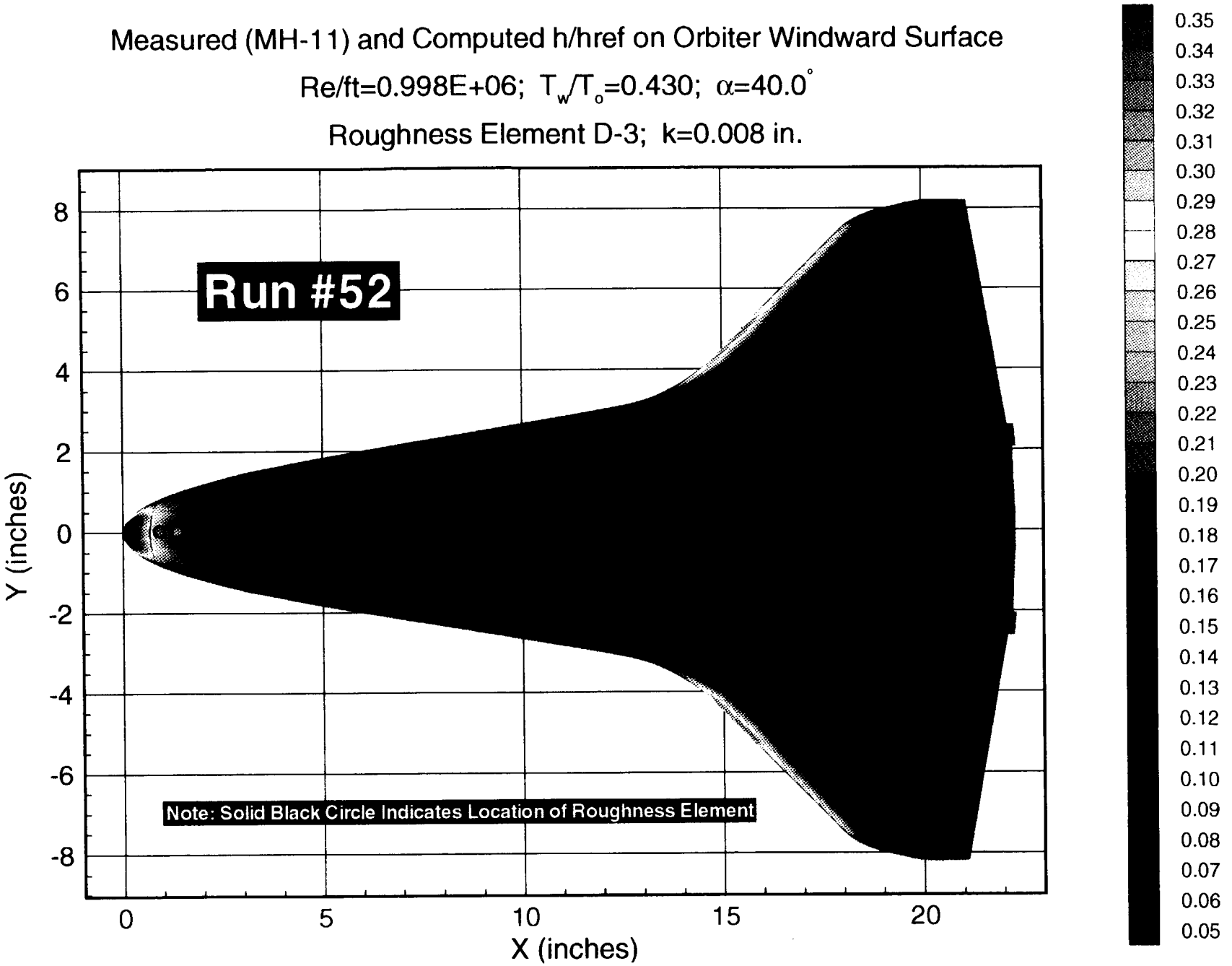


Figure A-13. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

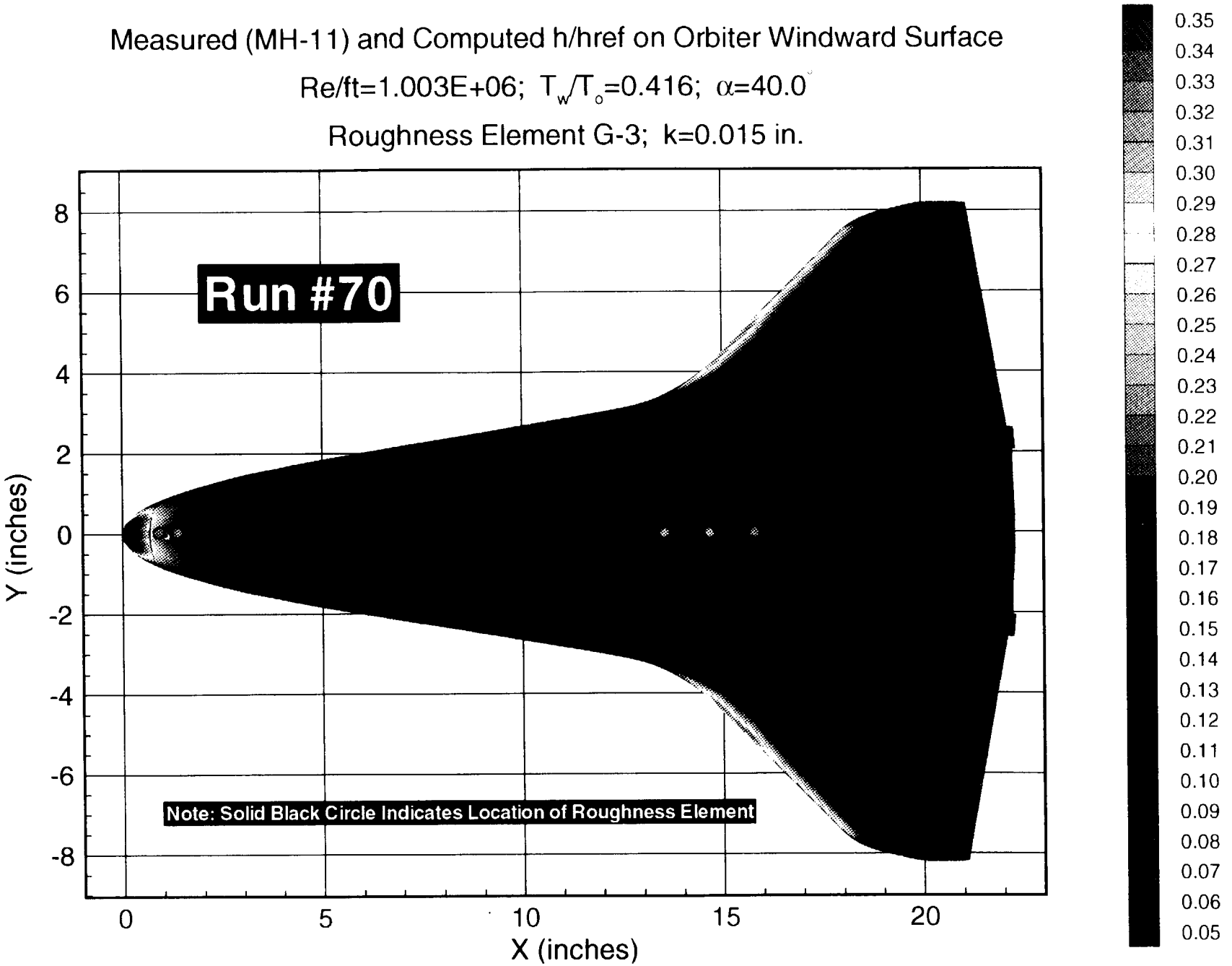


Figure A-14. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

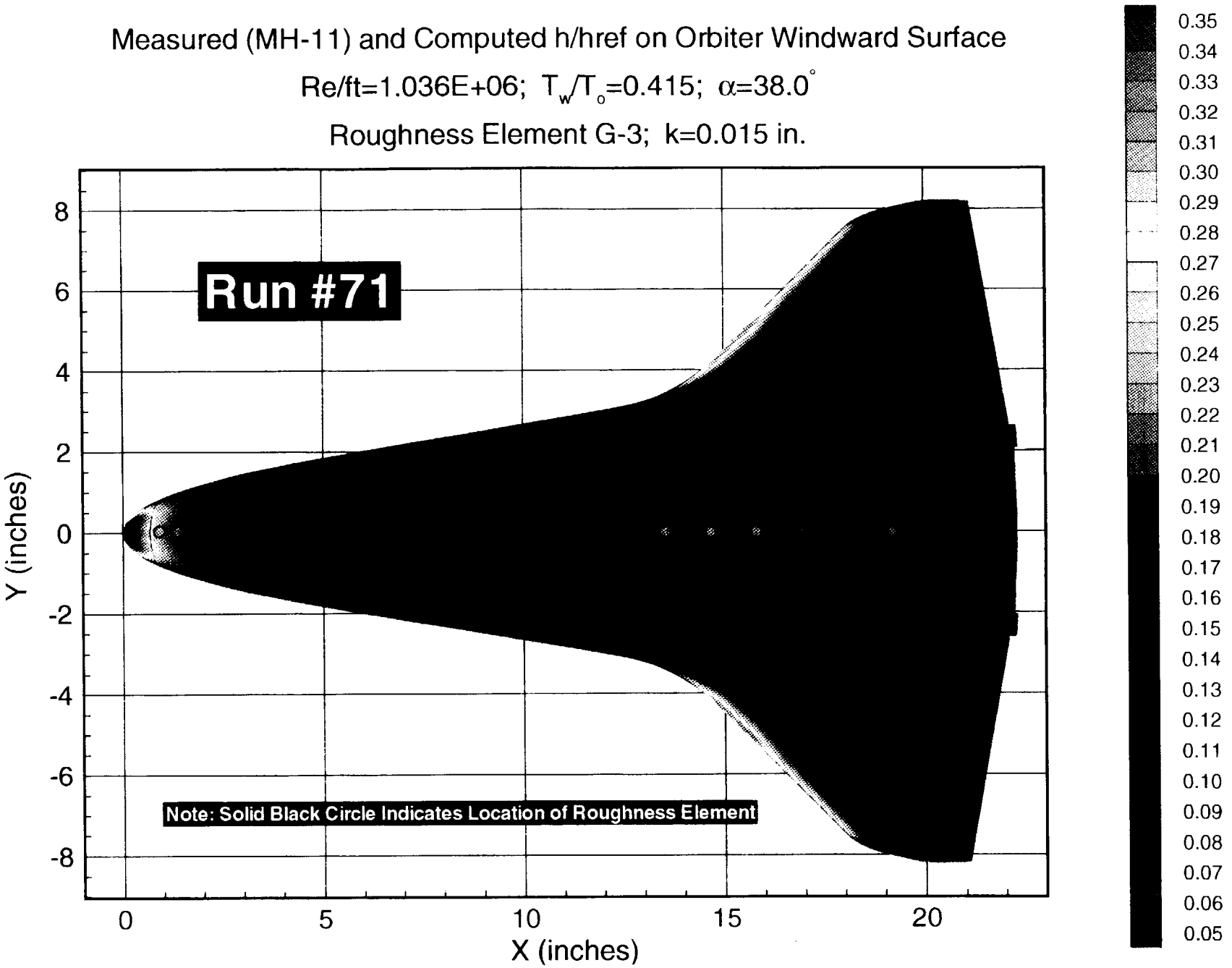


Figure A-15. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

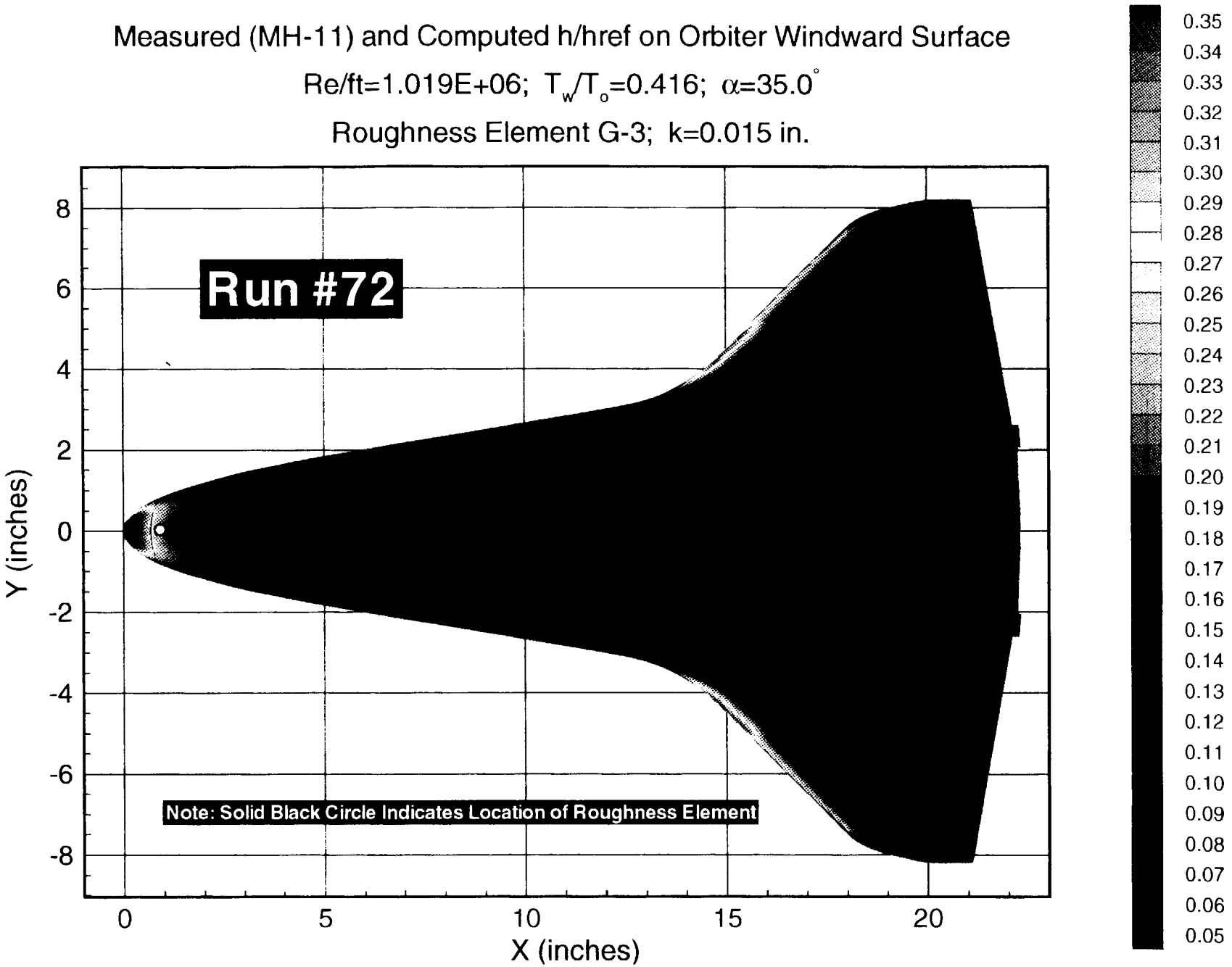


Figure A-16. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements

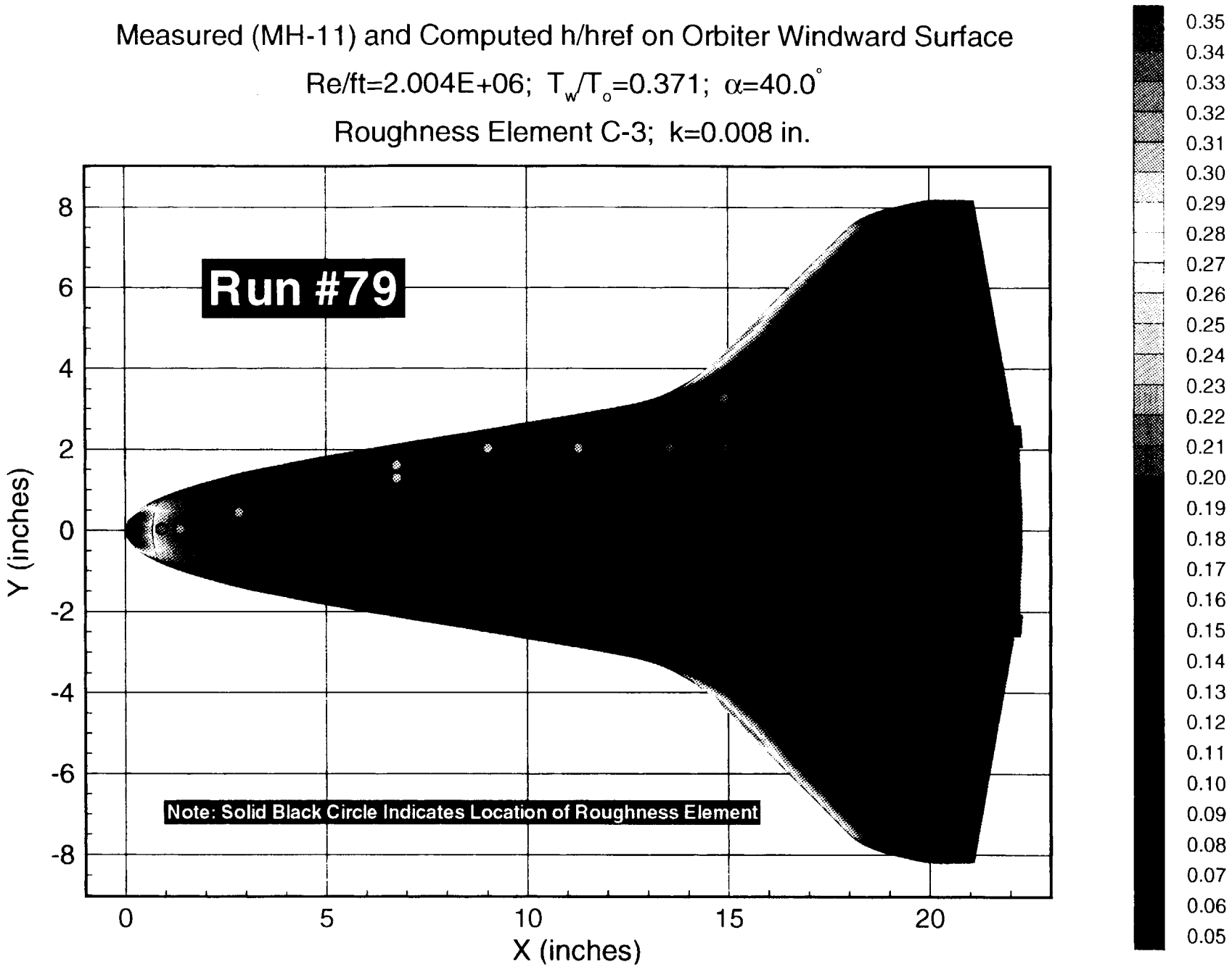


Figure A-17. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

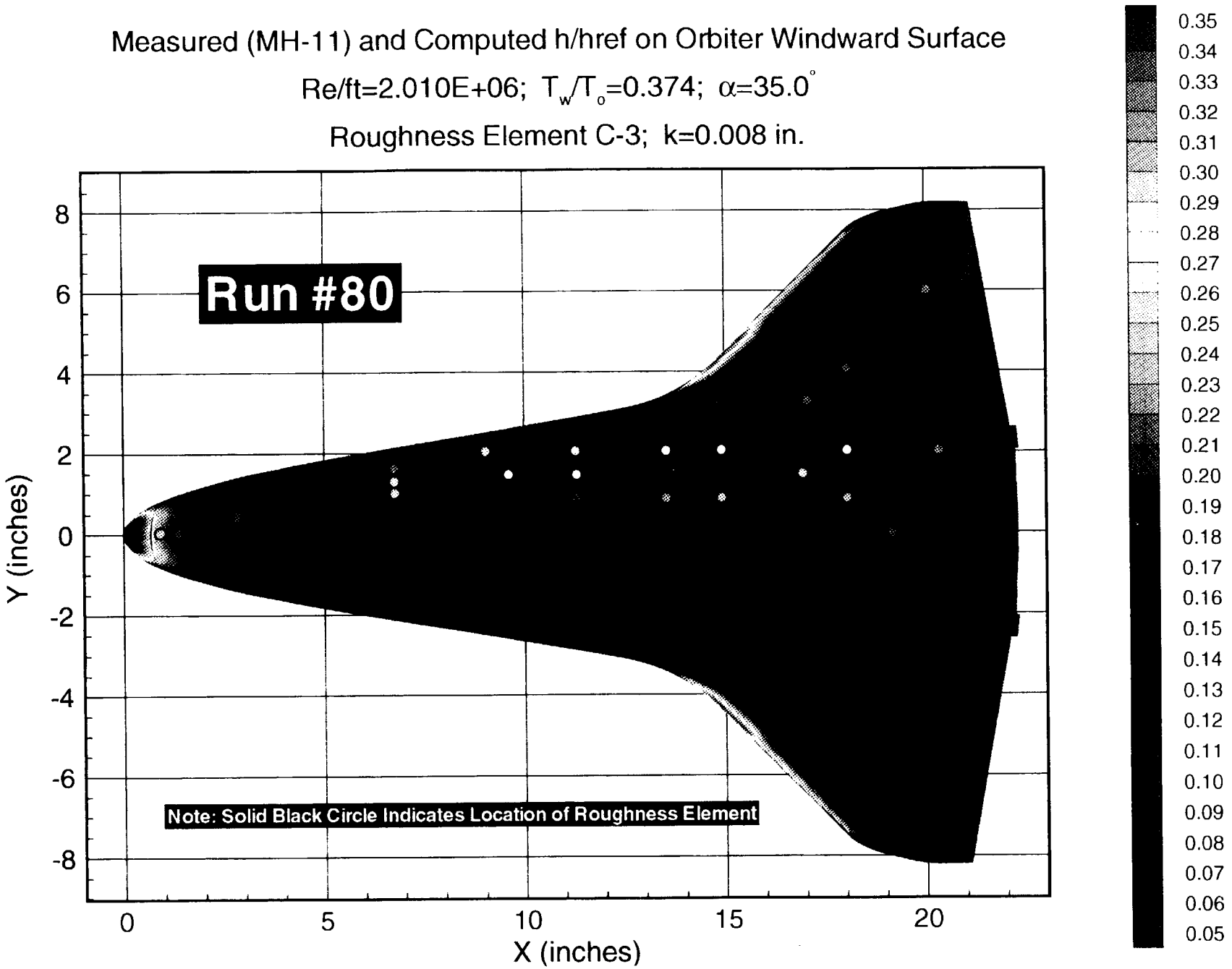


Figure A-18. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

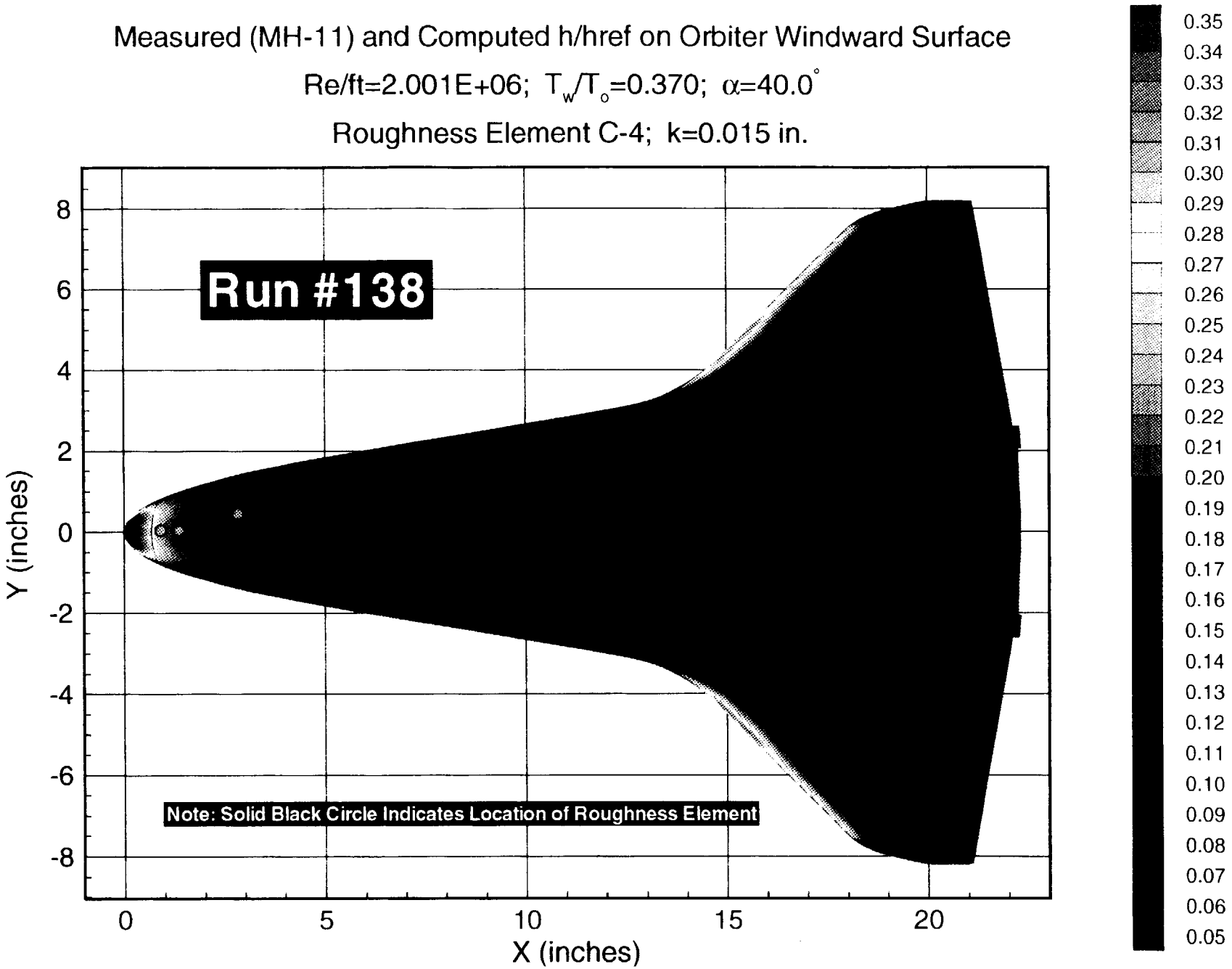


Figure A-19. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

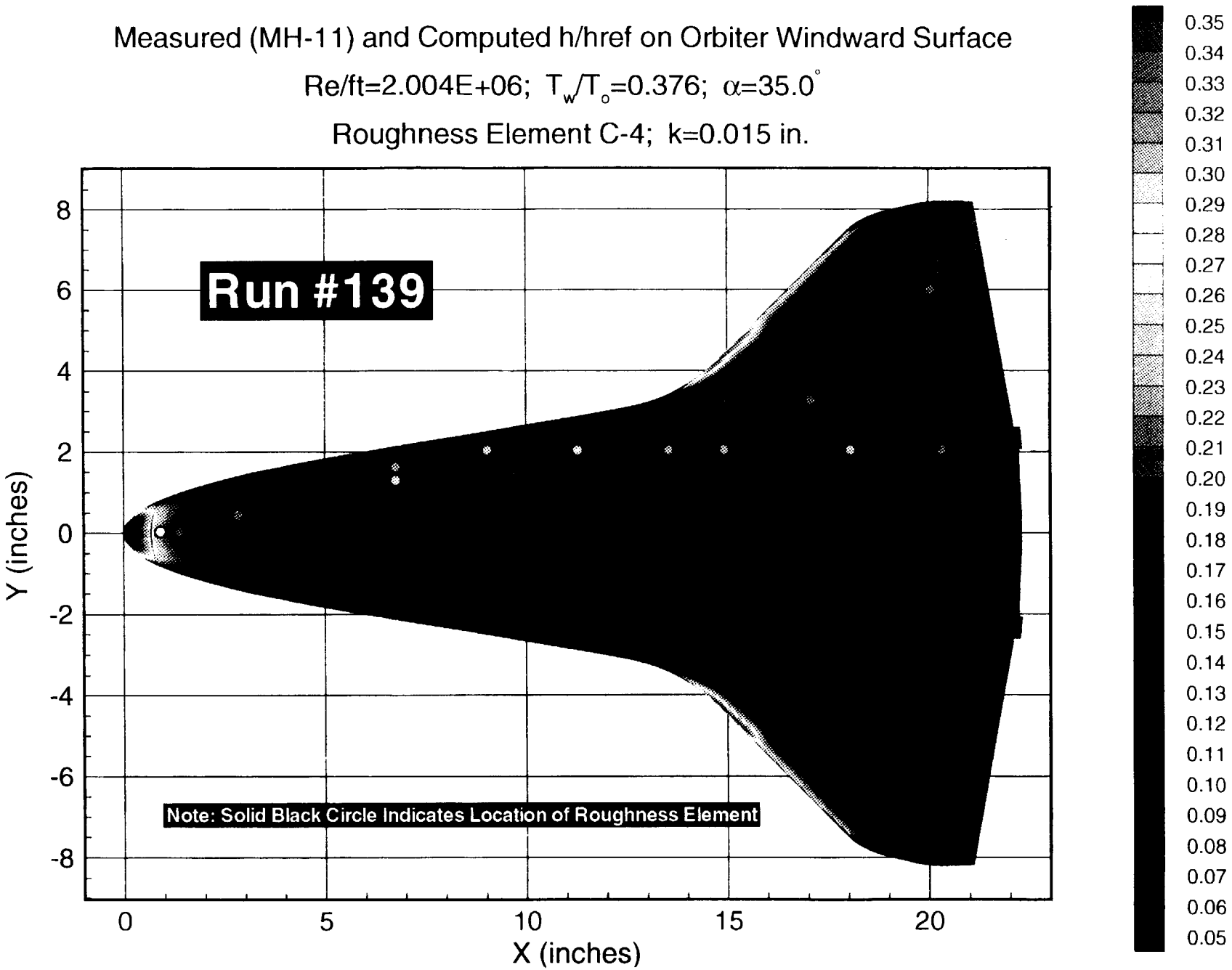


Figure A-20. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

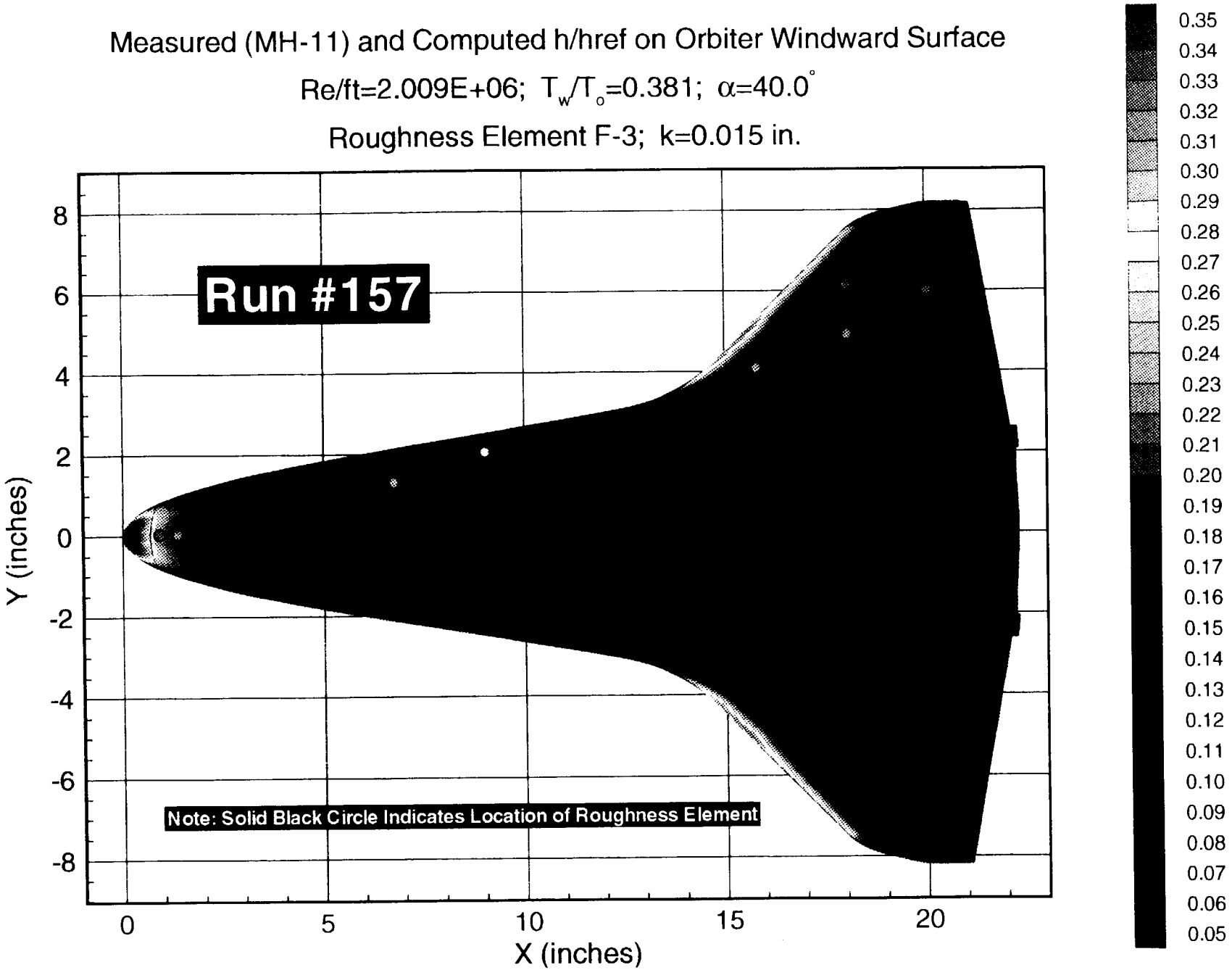


Figure A-21. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

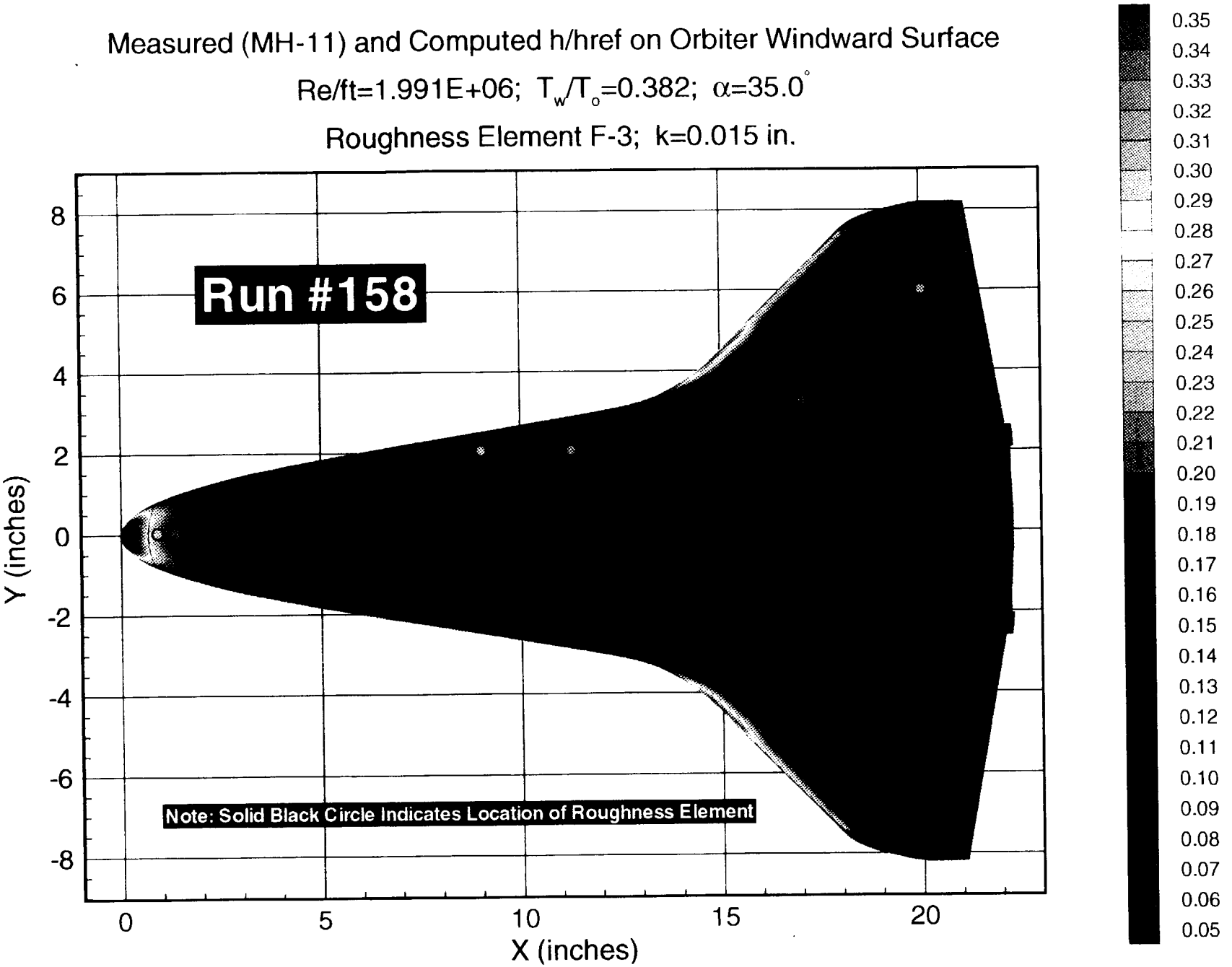


Figure A-22. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

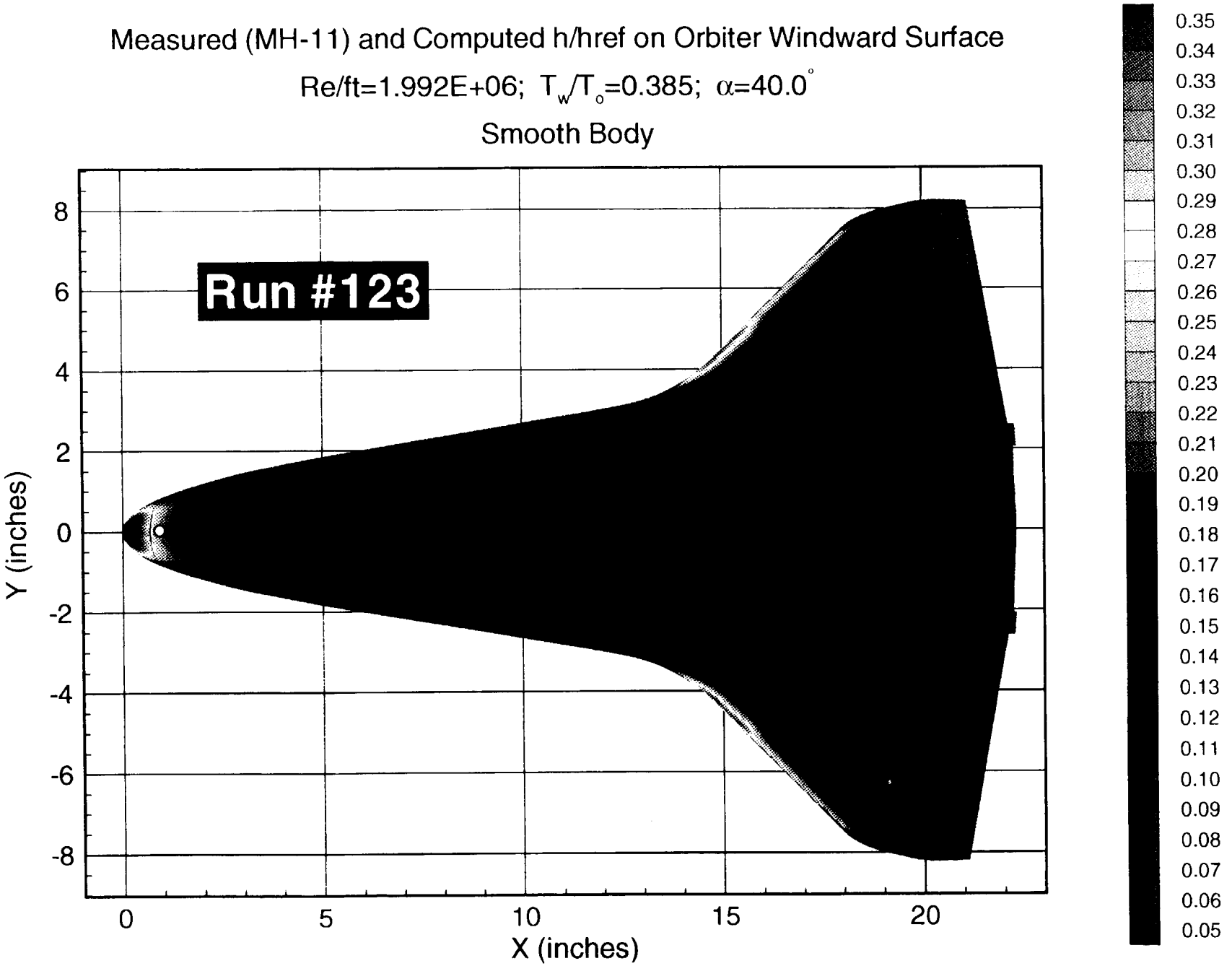


Figure A-23. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

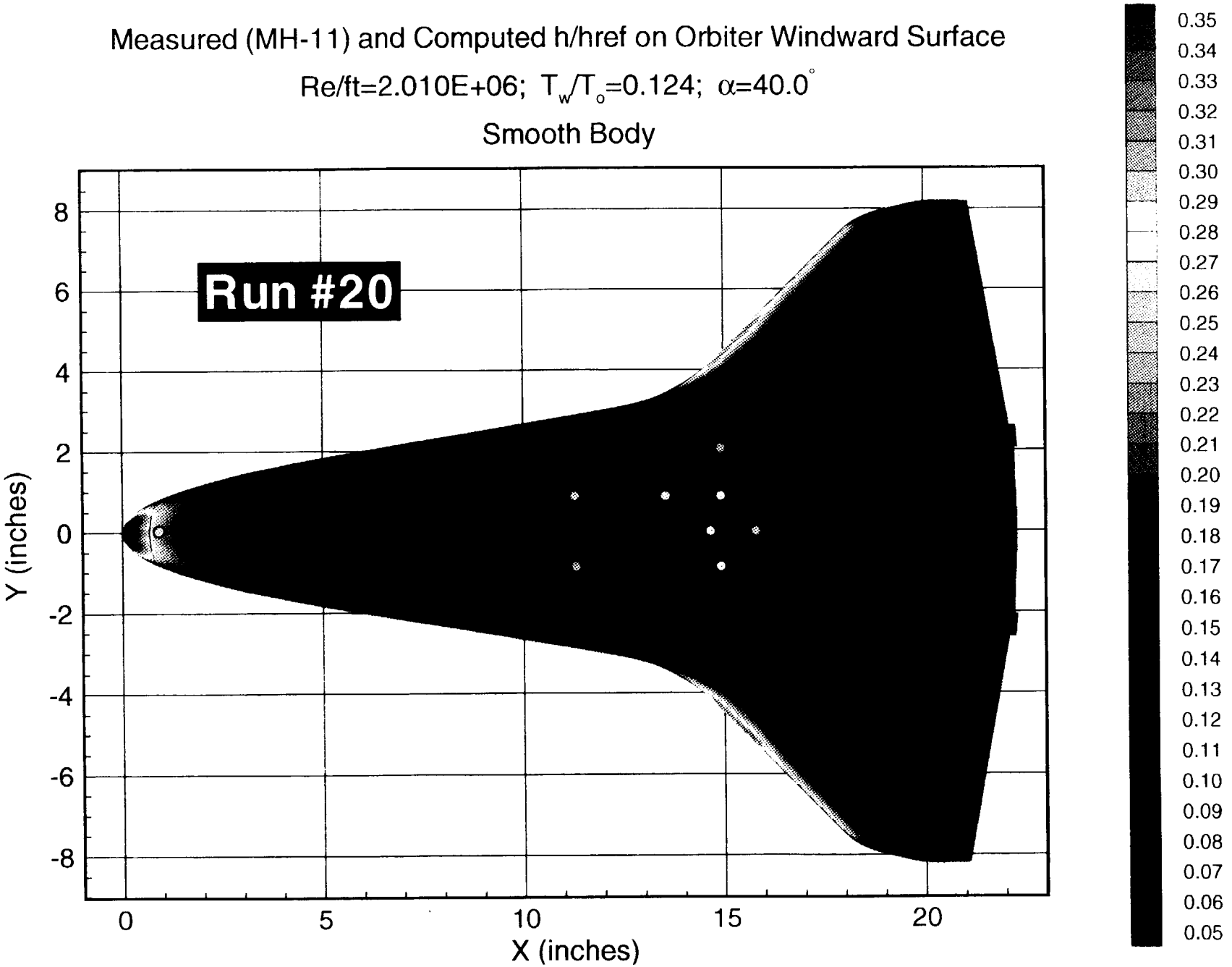


Figure A-24. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

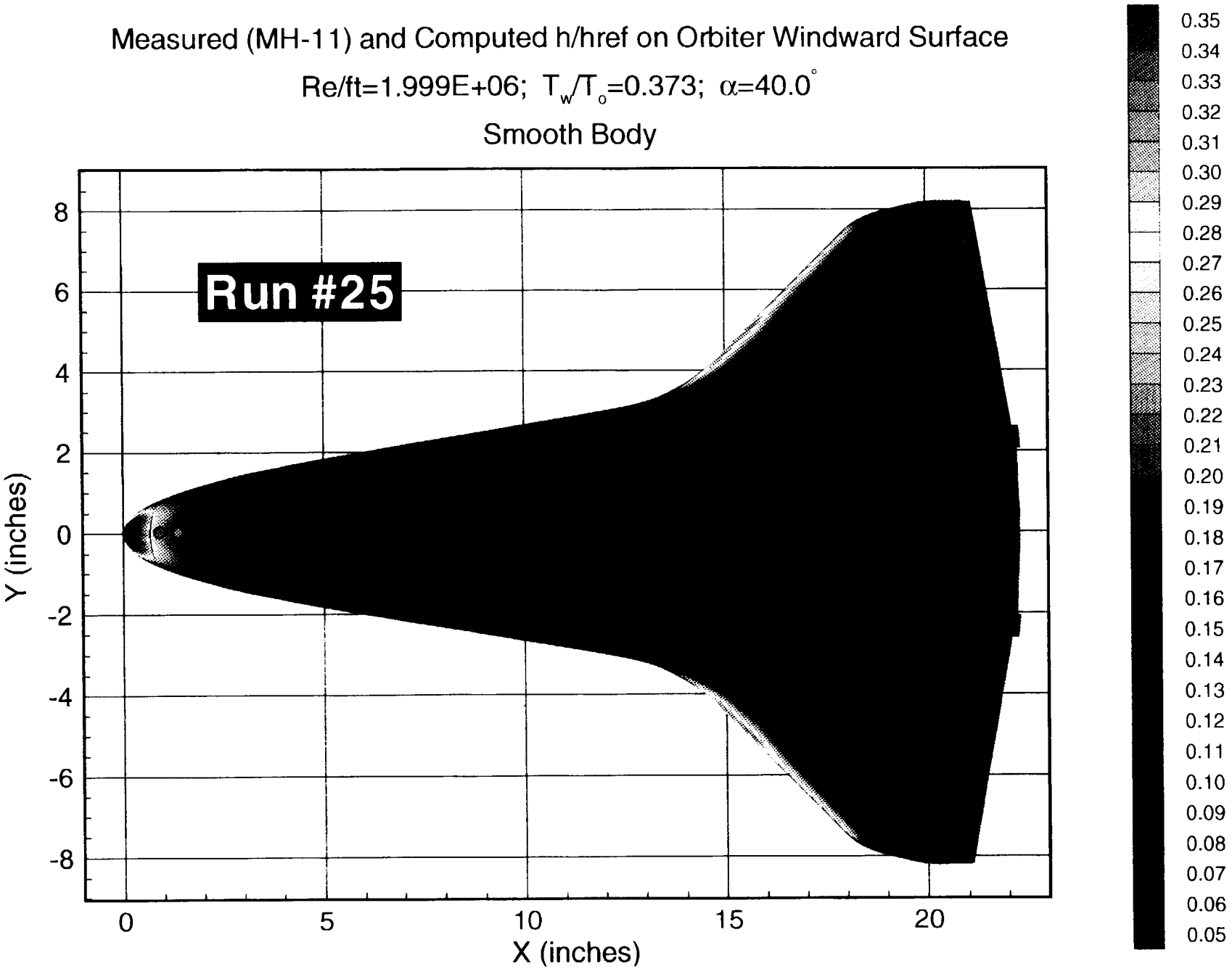


Figure A-25. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

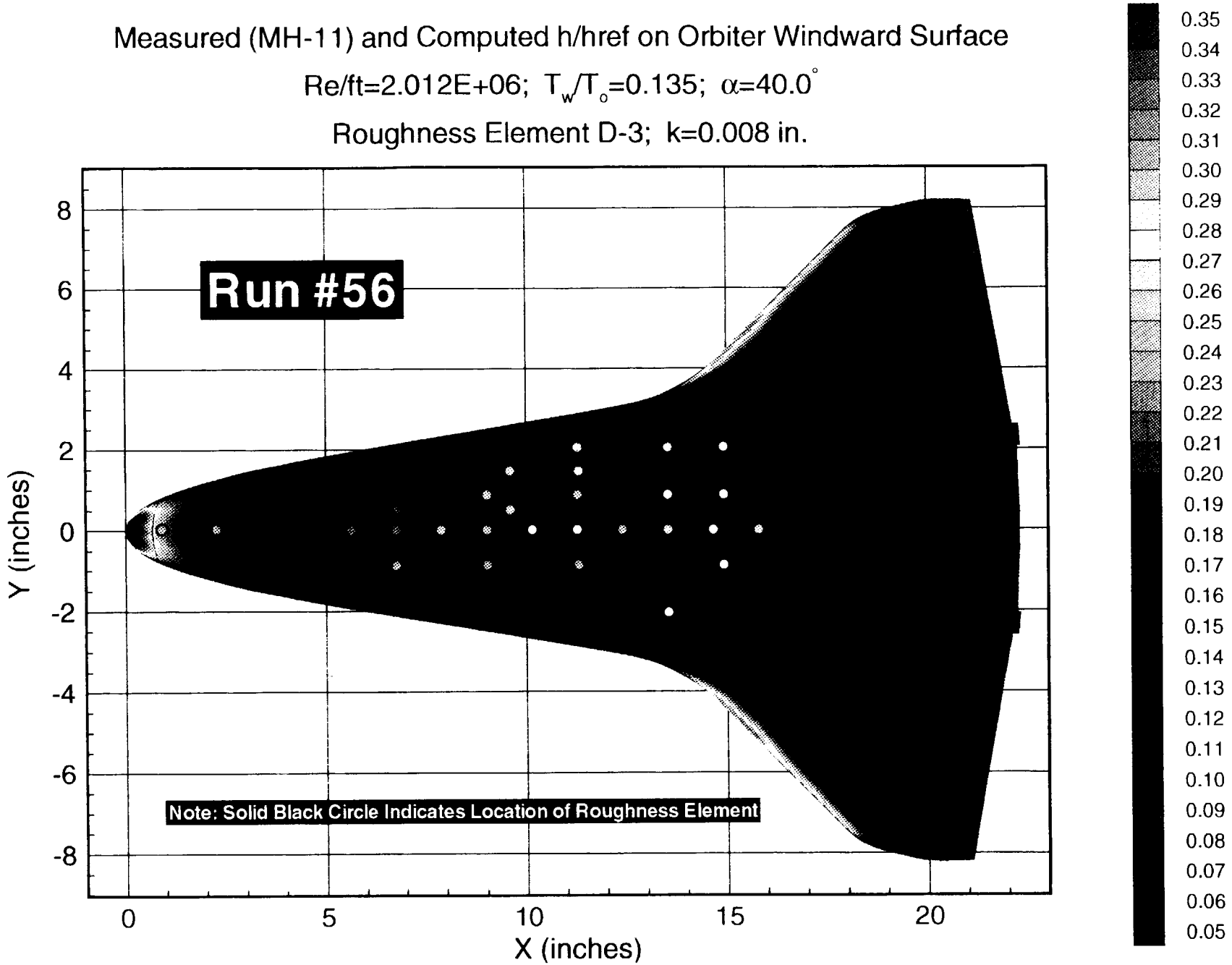


Figure A-26. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

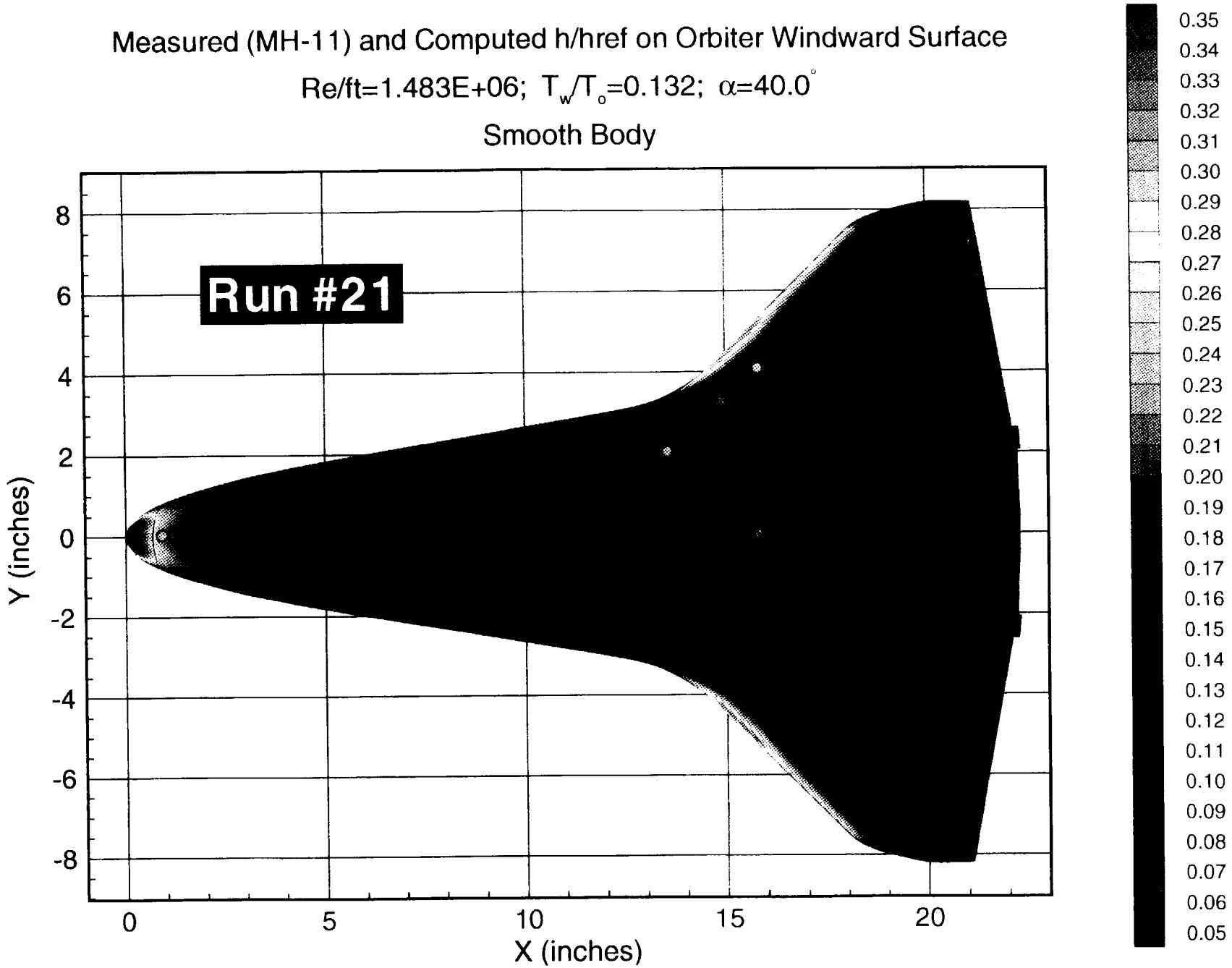


Figure A-27. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

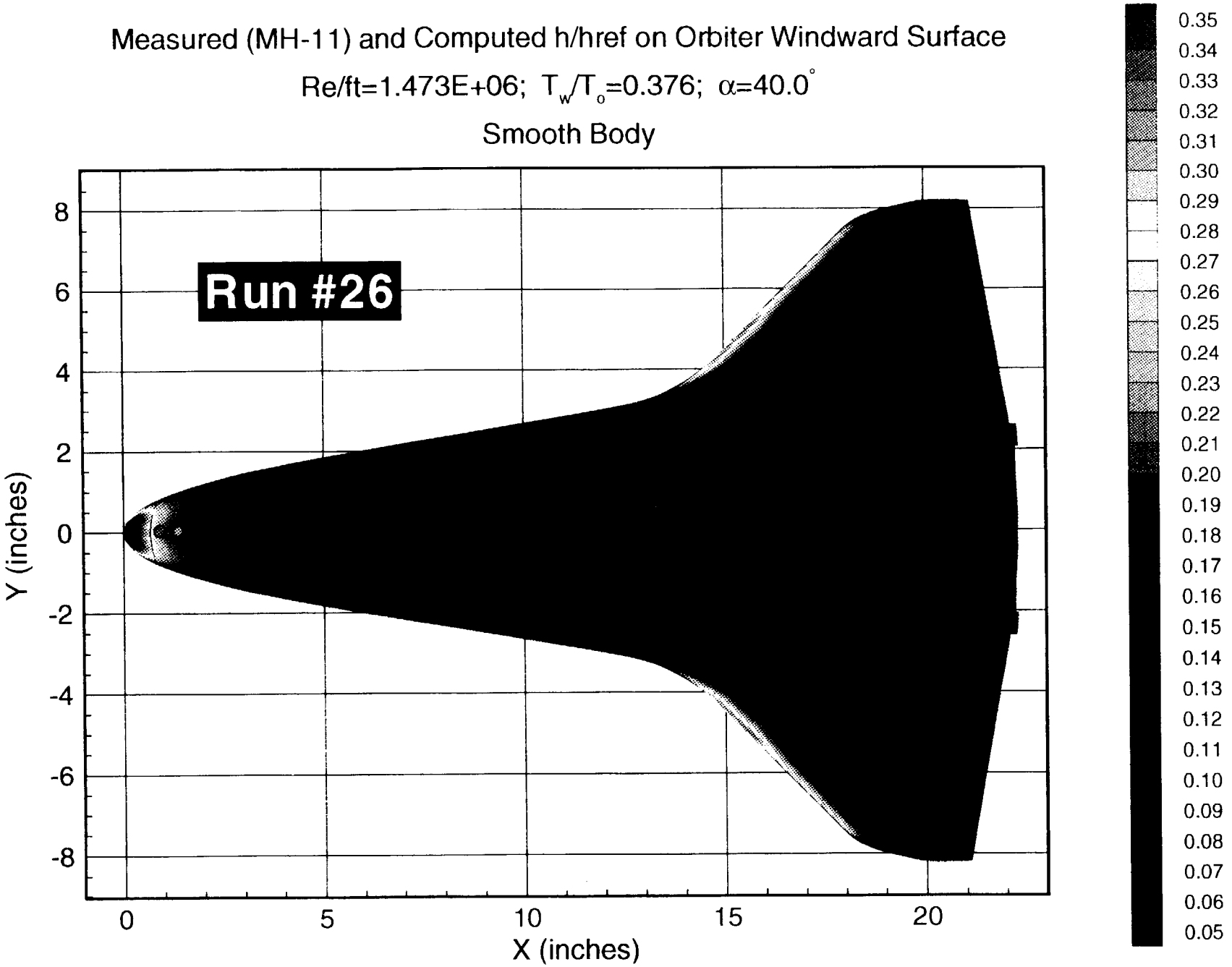


Figure A-28. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

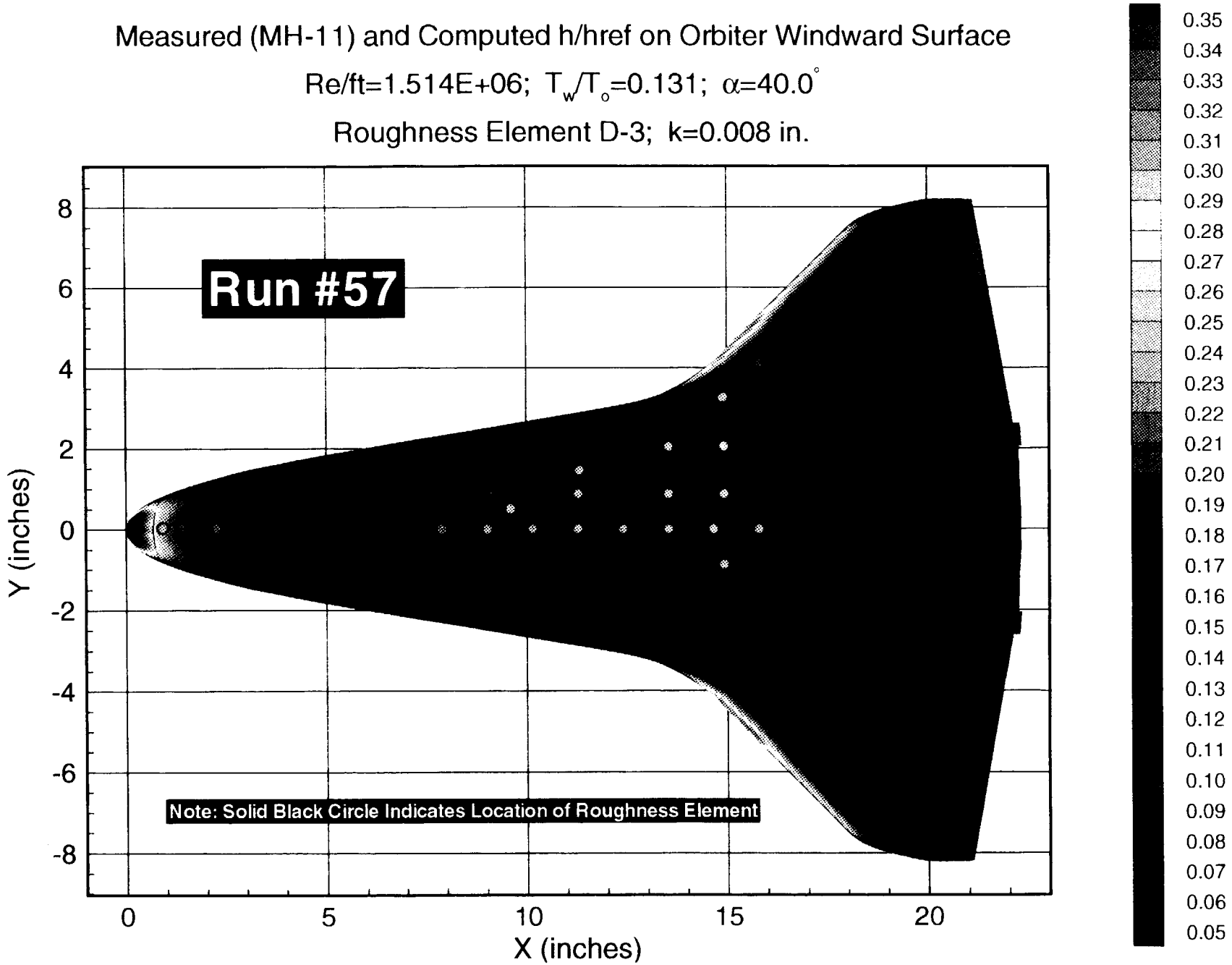


Figure A-29. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

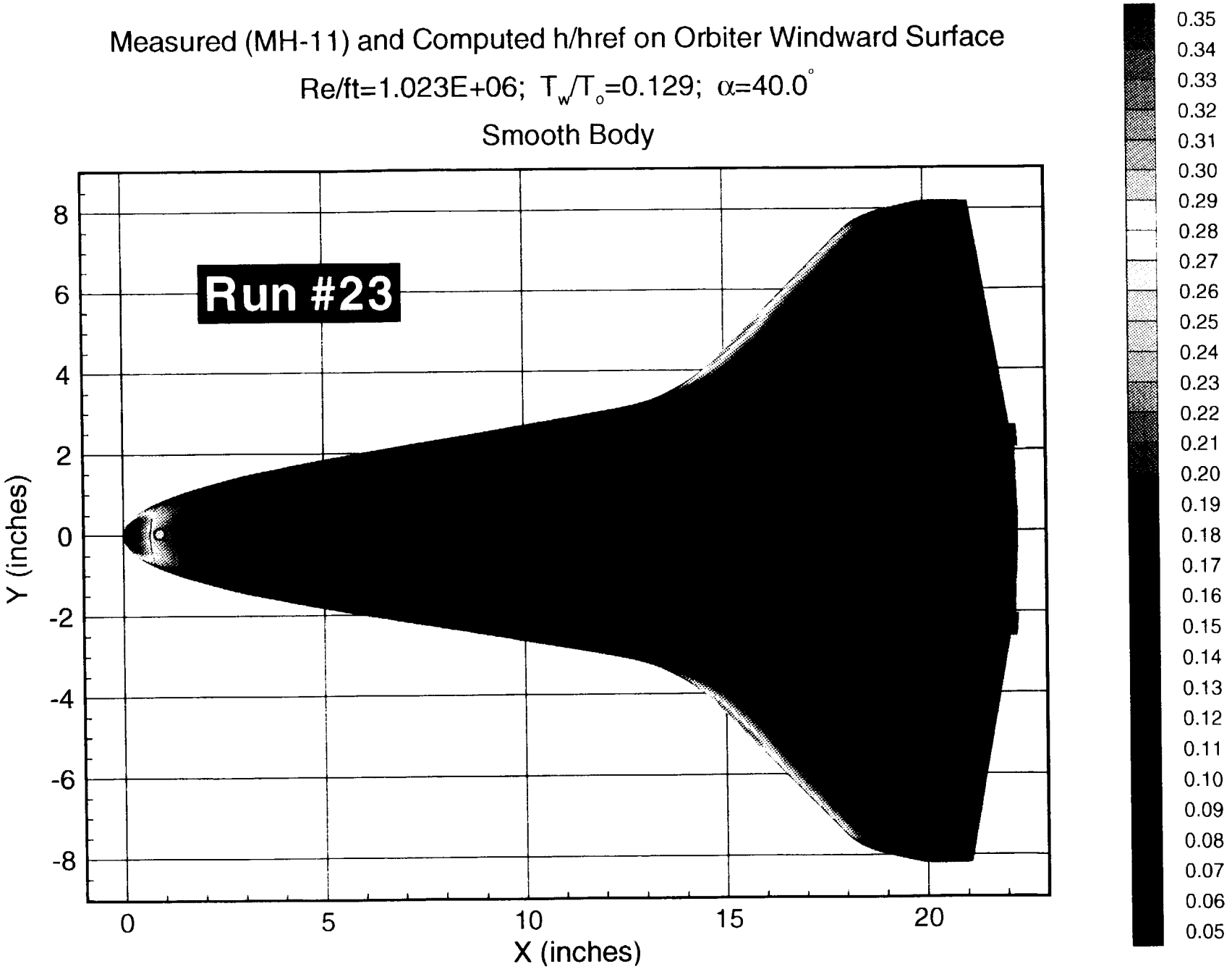


Figure A-30. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

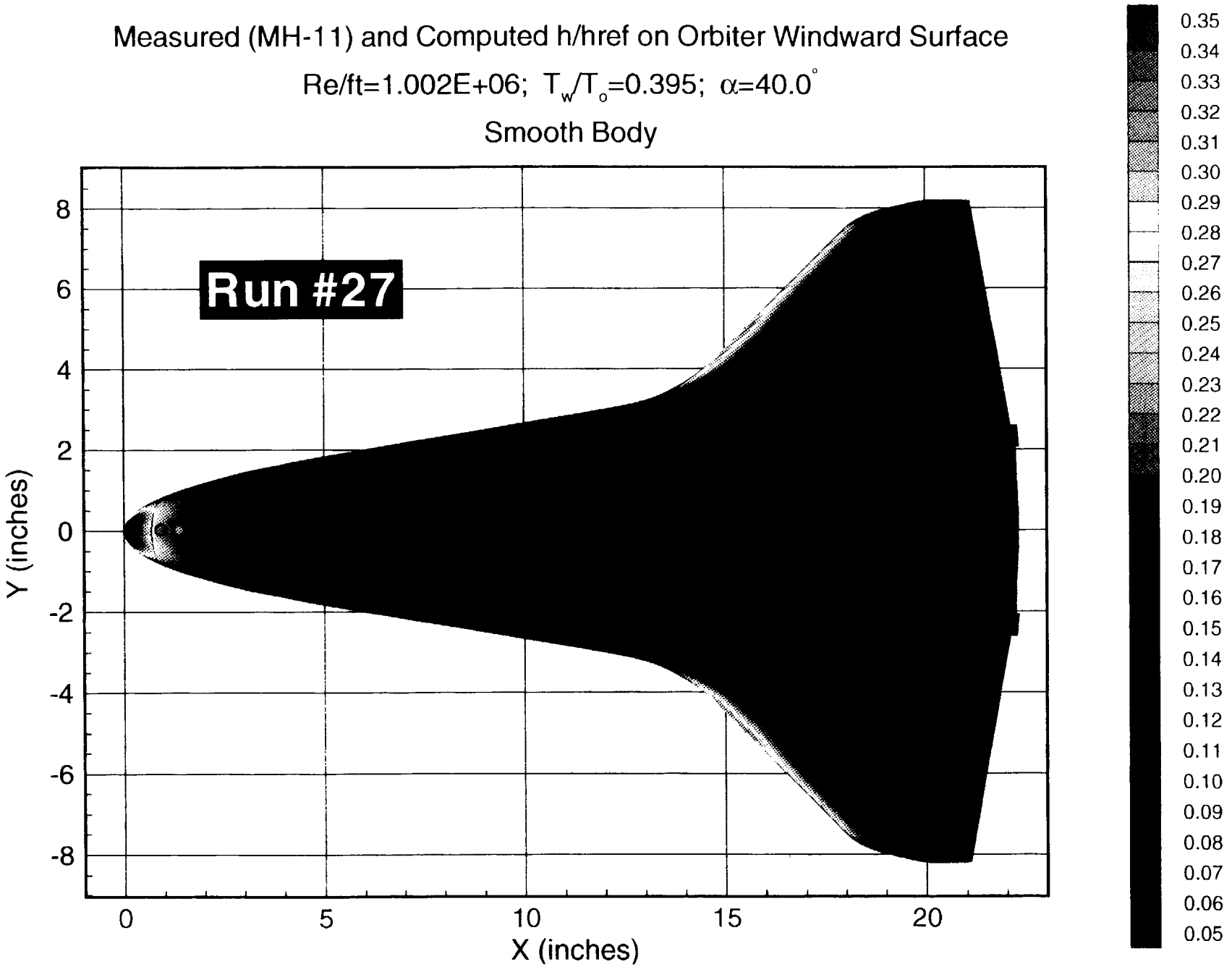


Figure A-31. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

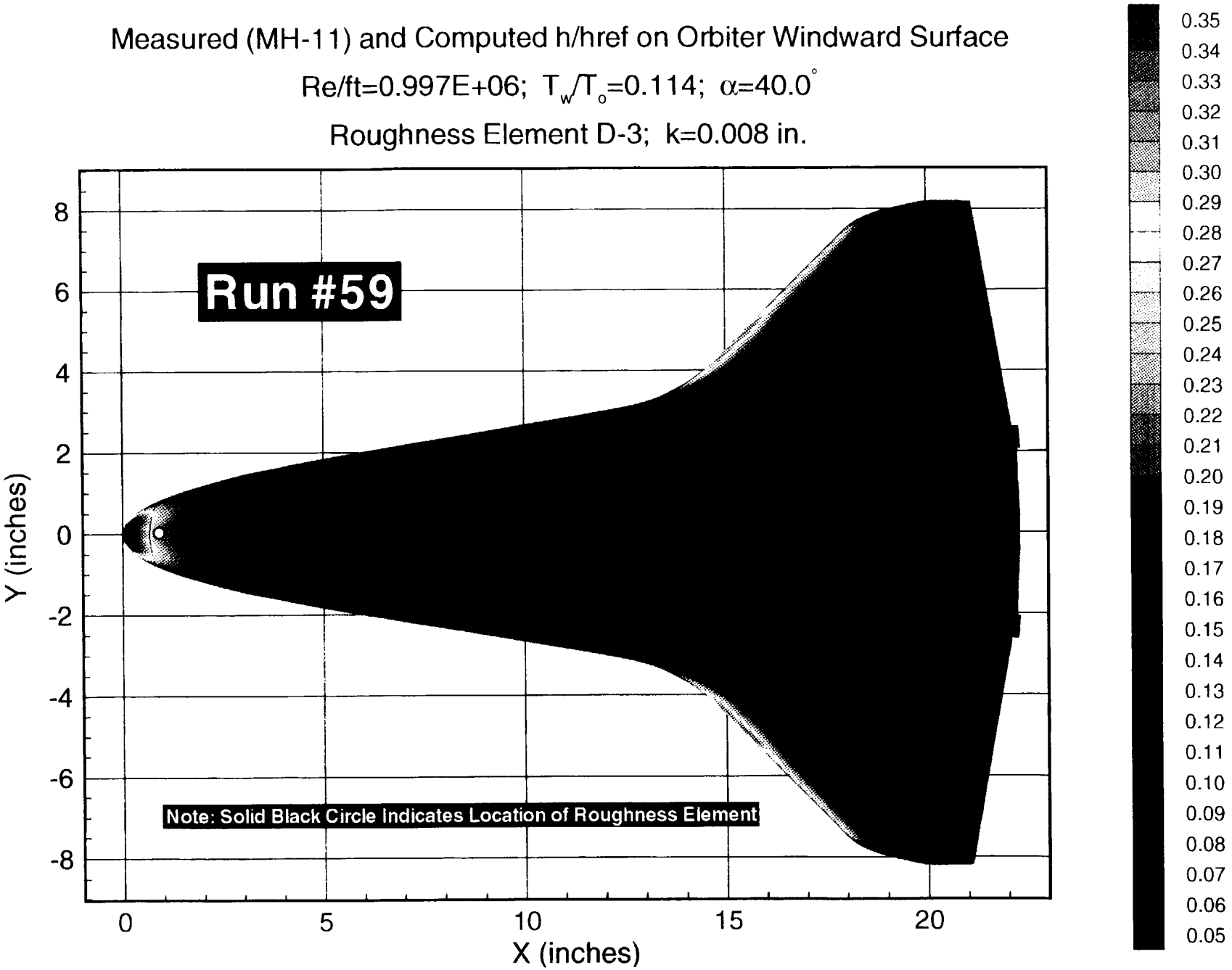


Figure A-32. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

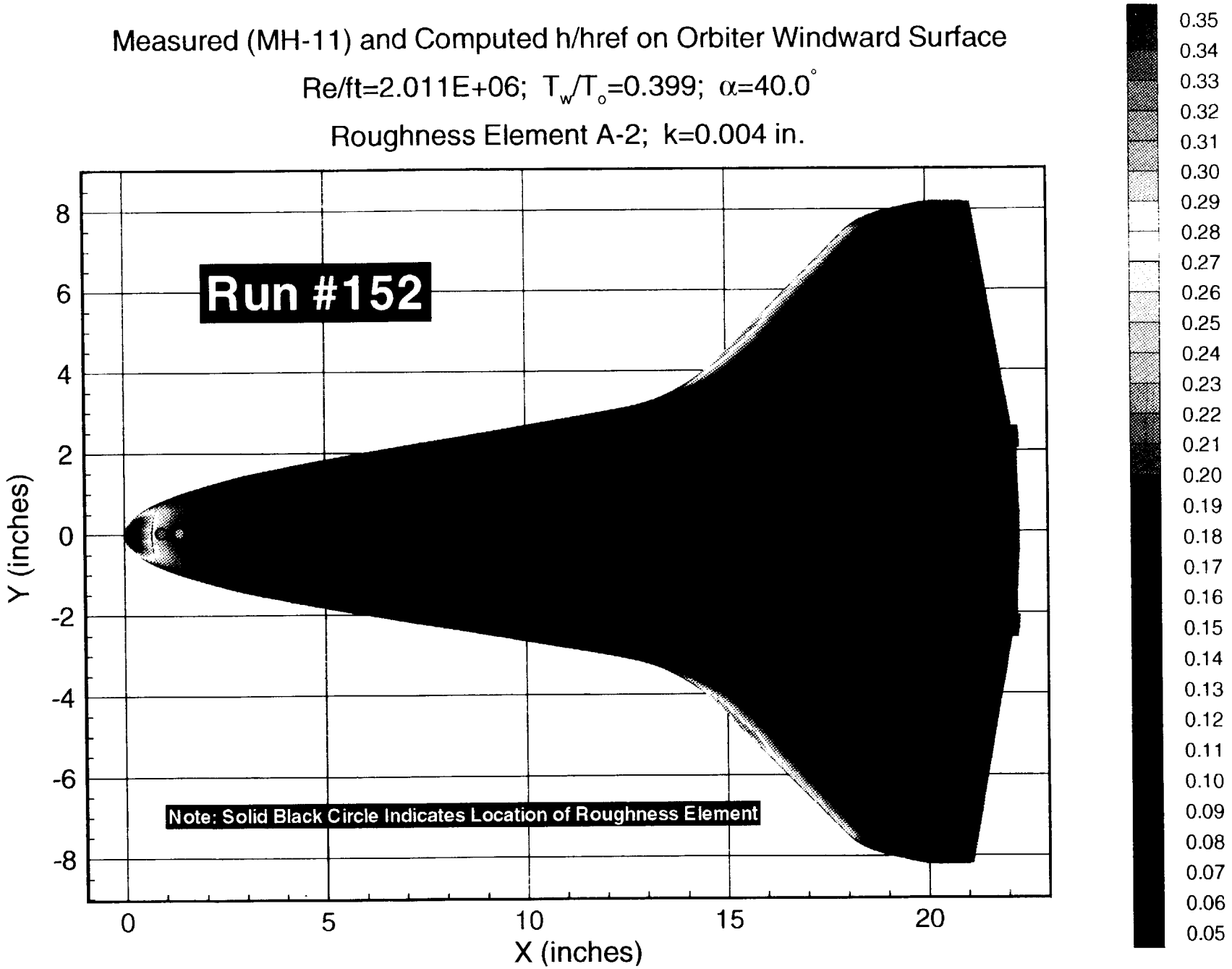


Figure A-33. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

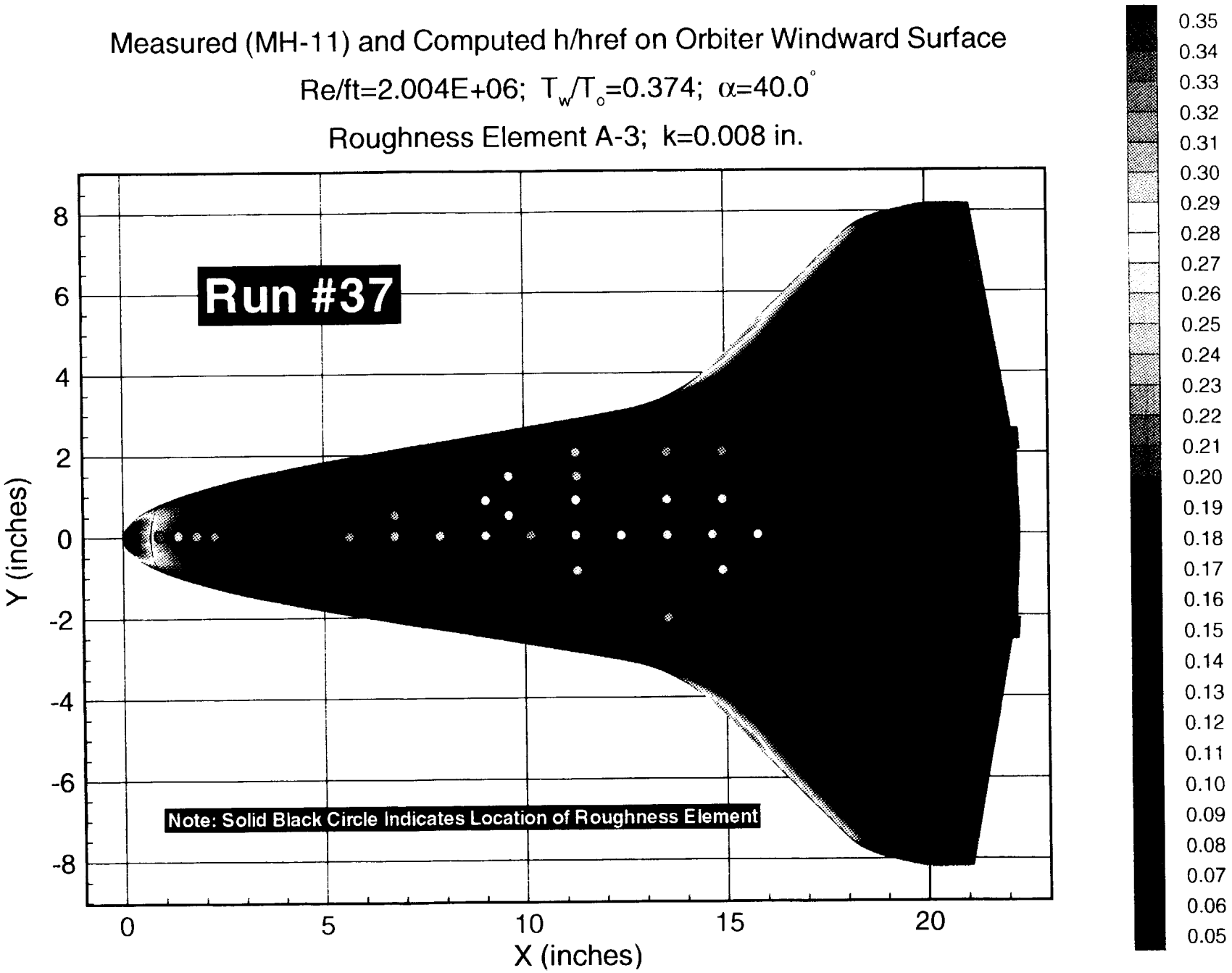


Figure A-34. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

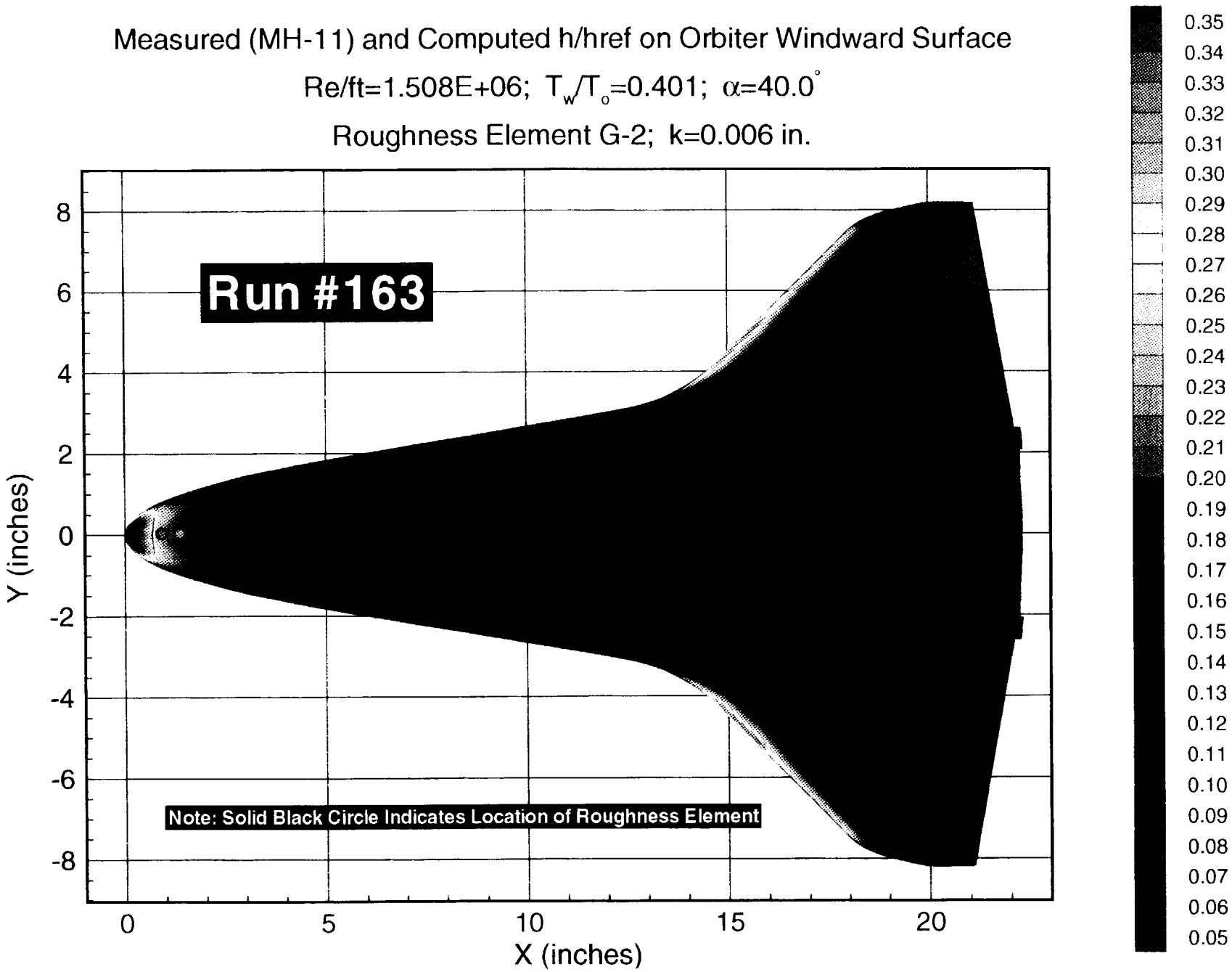


Figure A-35. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

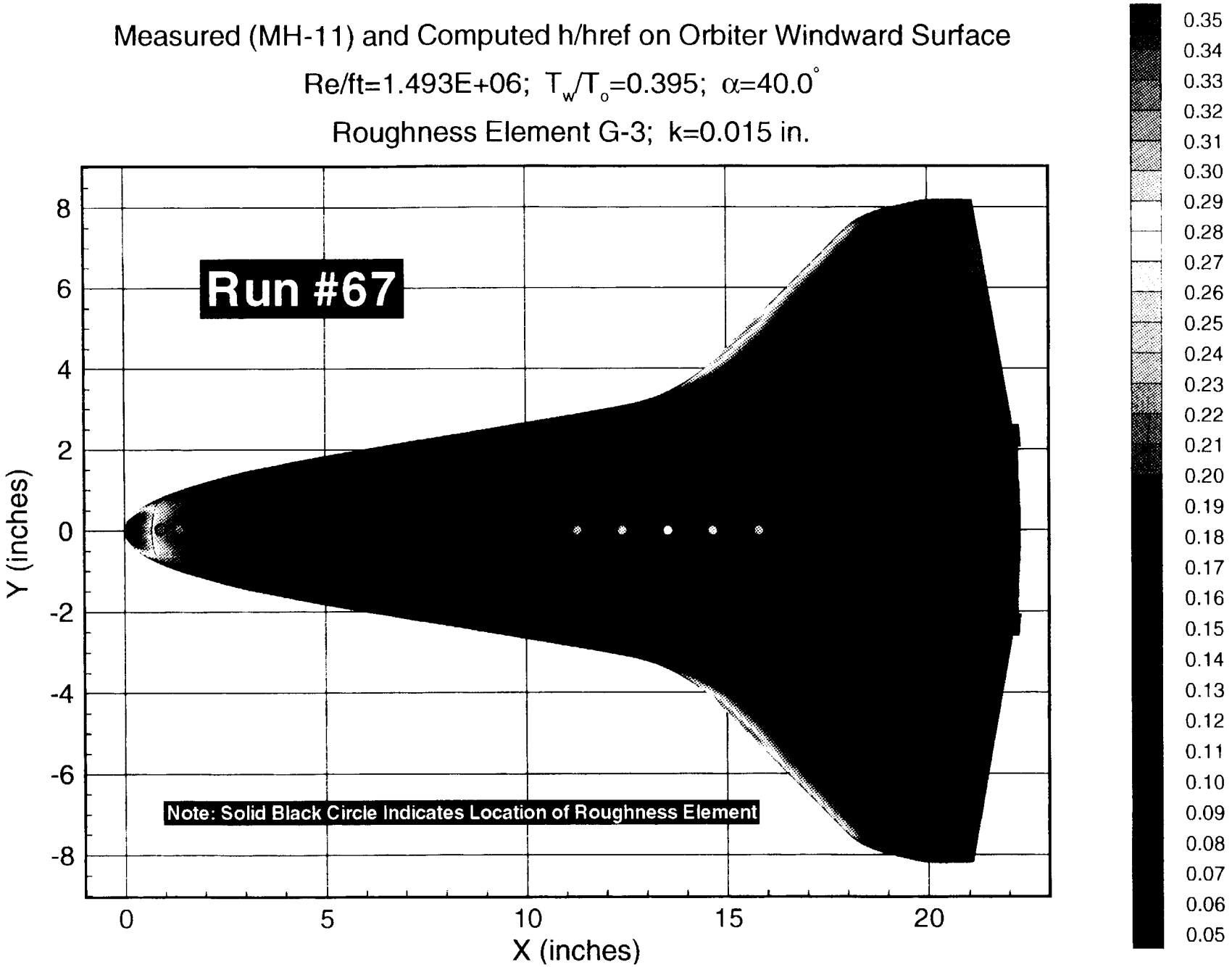


Figure A-36. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

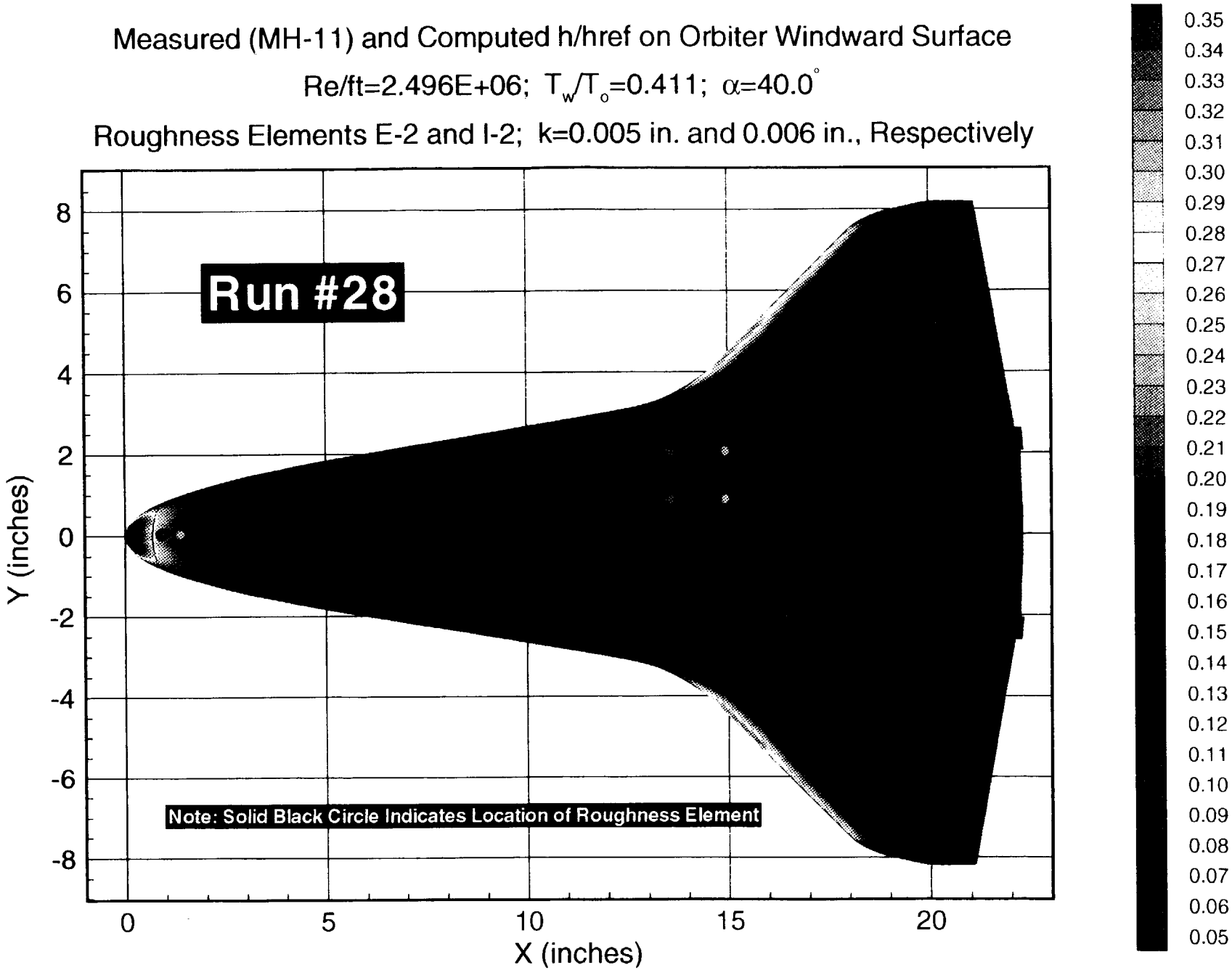


Figure A-37. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

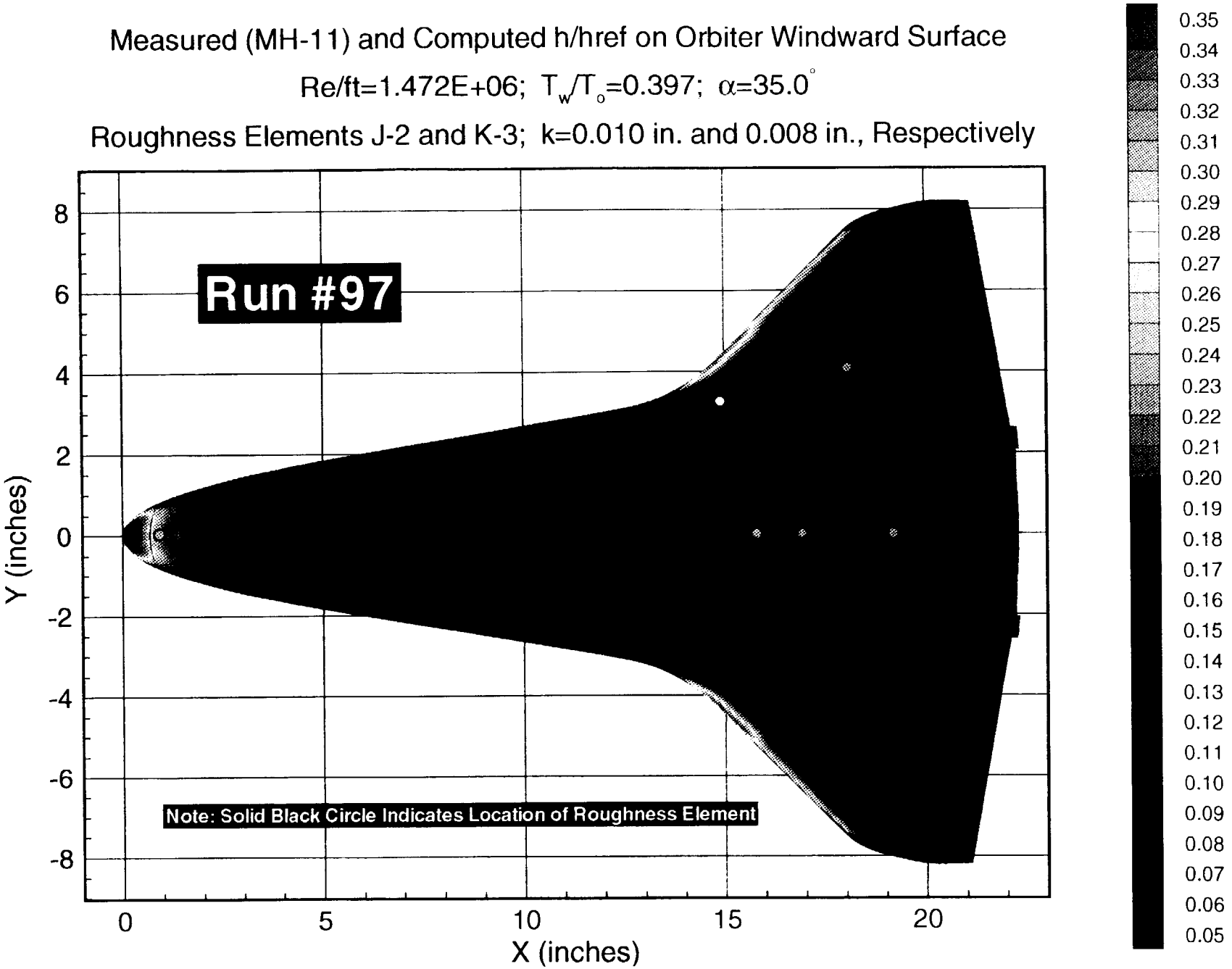


Figure A-38. - Comparison of Predicted Laminar Heat Transfer Coefficient Distribution with MH-11 Measurements.

APPENDIX B

Plotted Heat Transfer Coefficient Data

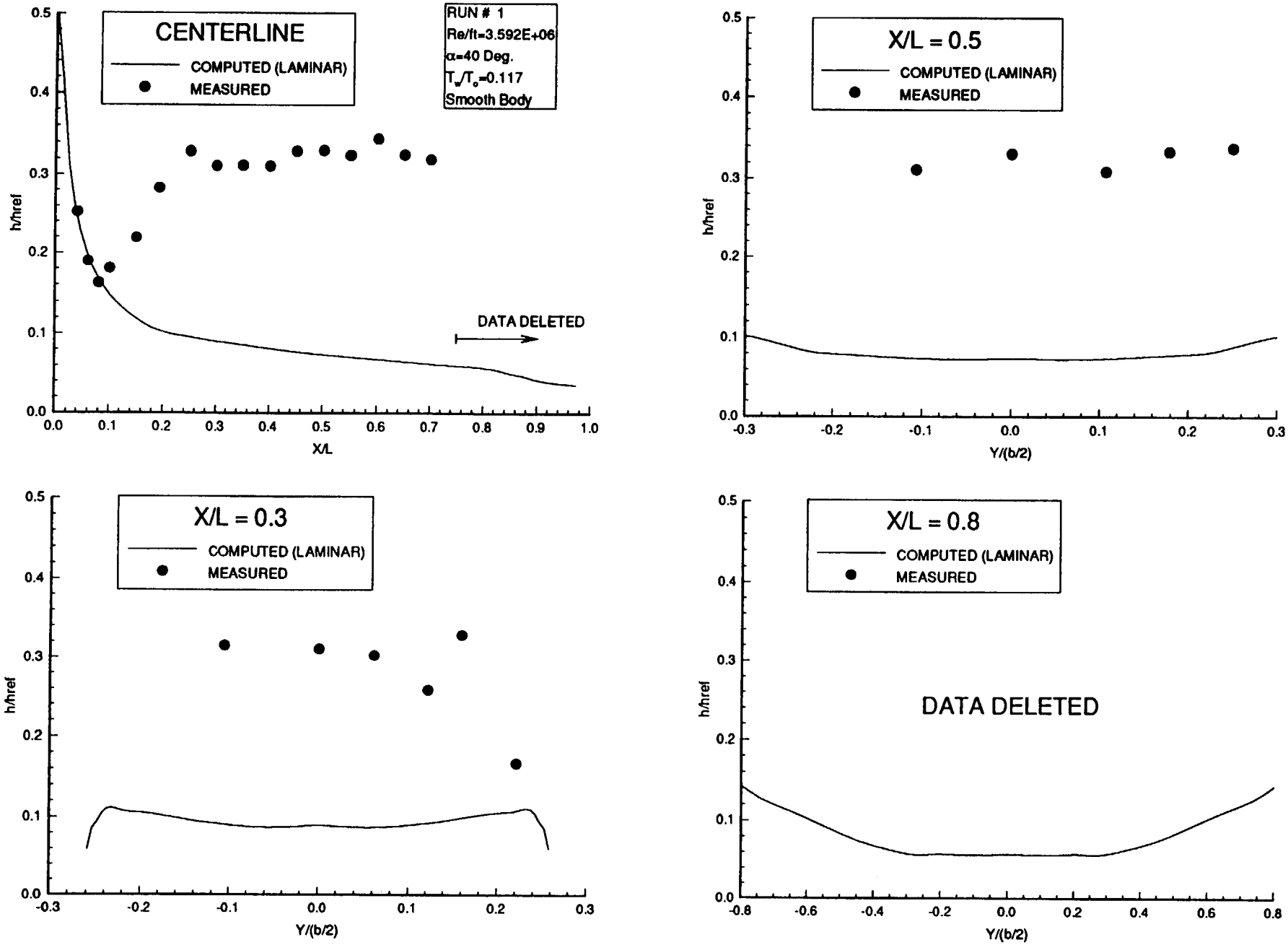


Figure B-1. - Heat Transfer Coefficient Data.

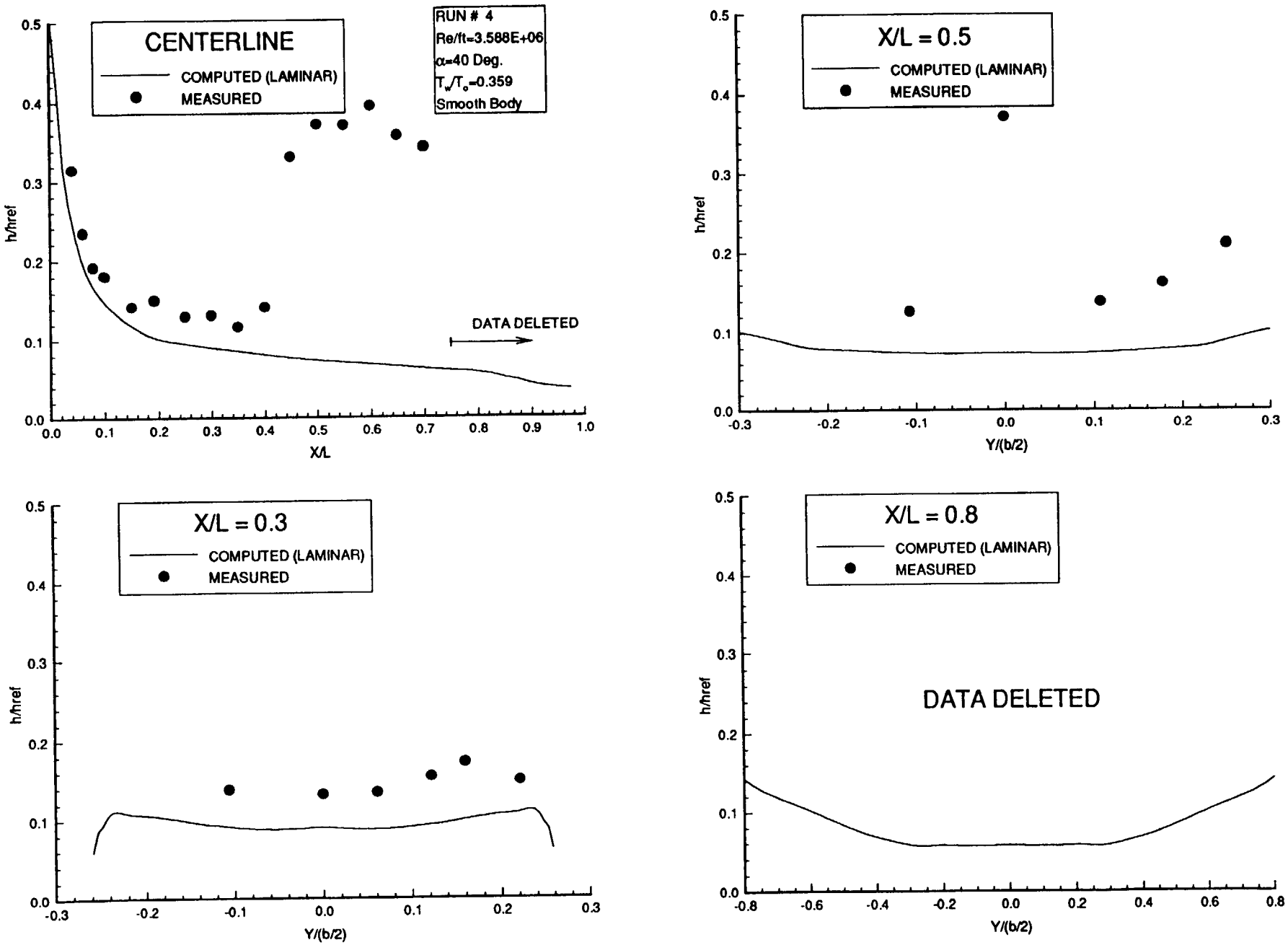


Figure B-2. - Heat Transfer Coefficient Data.

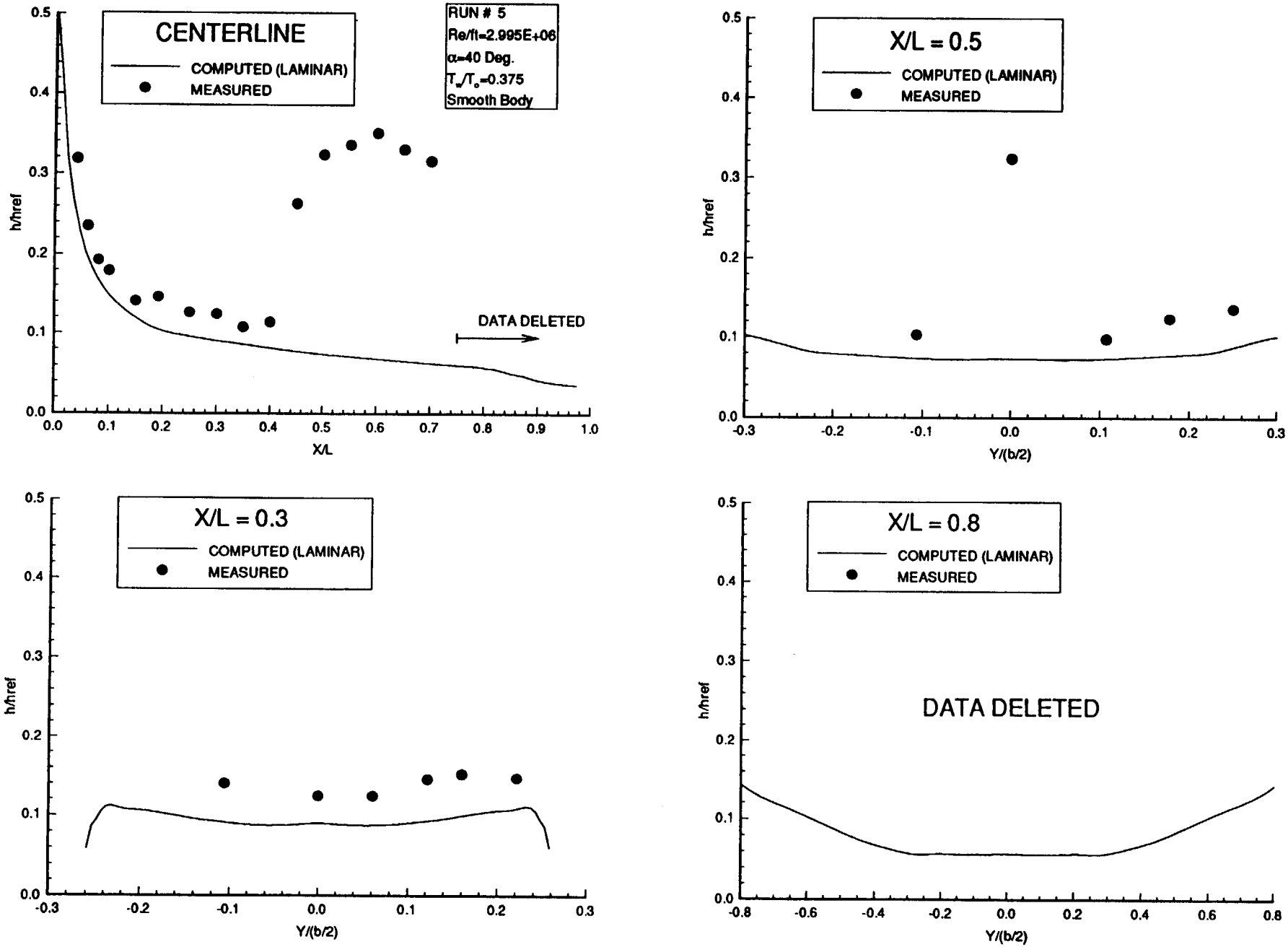


Figure B-3. - Heat Transfer Coefficient Data.

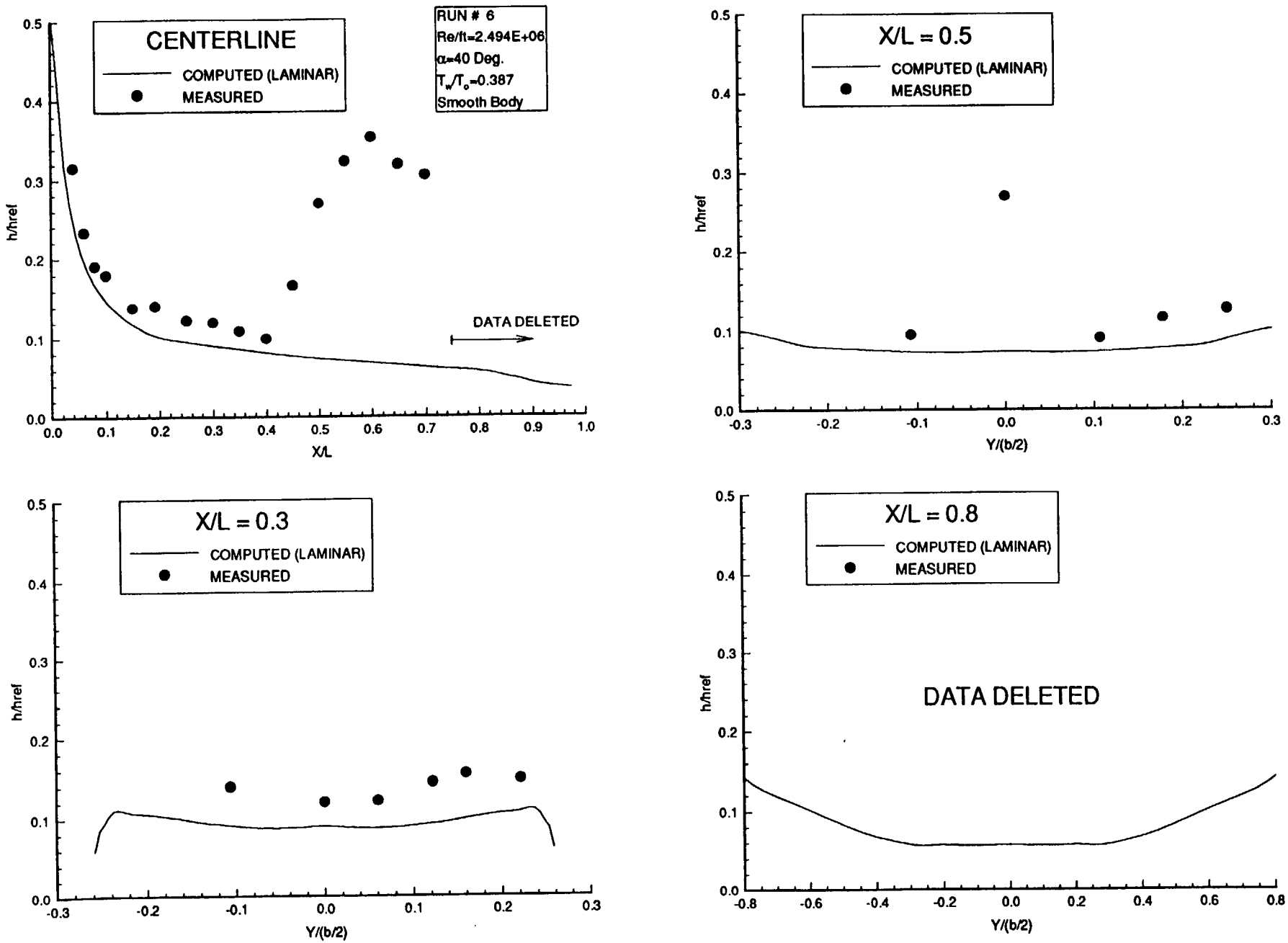


Figure B-4. - Heat Transfer Coefficient Data.

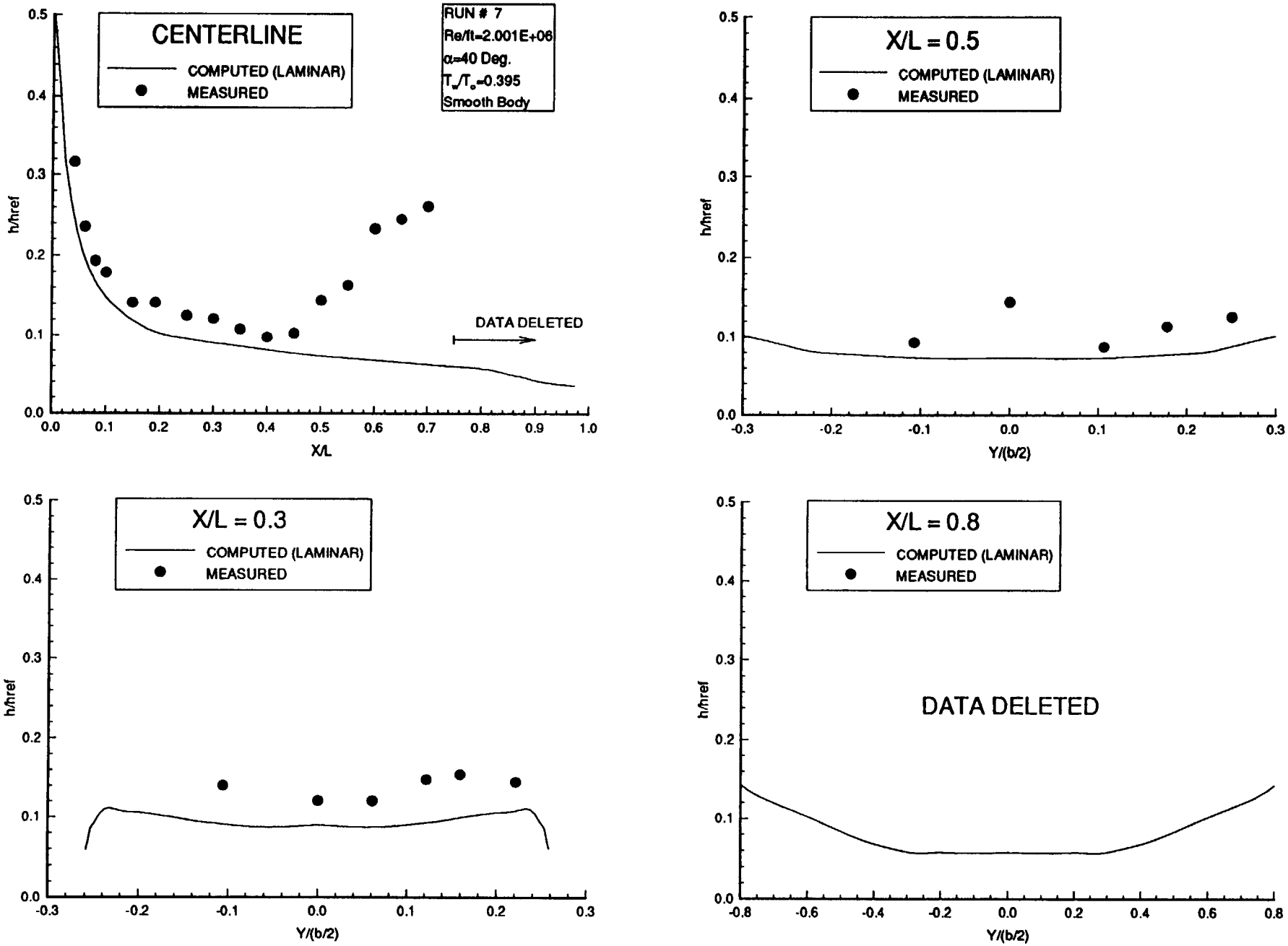


Figure B-5. - Heat Transfer Coefficient Data.

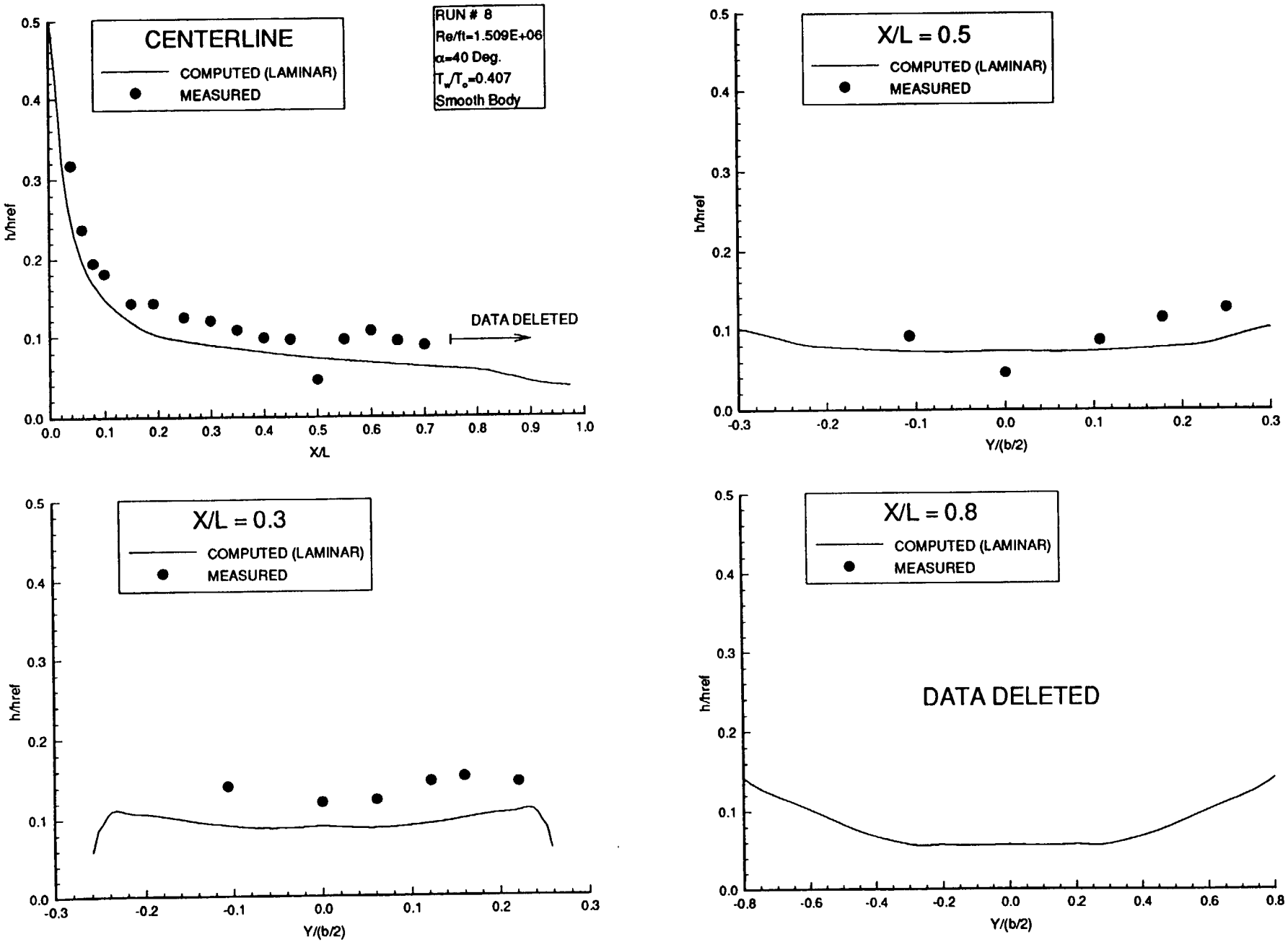


Figure B-6. - Heat Transfer Coefficient Data.

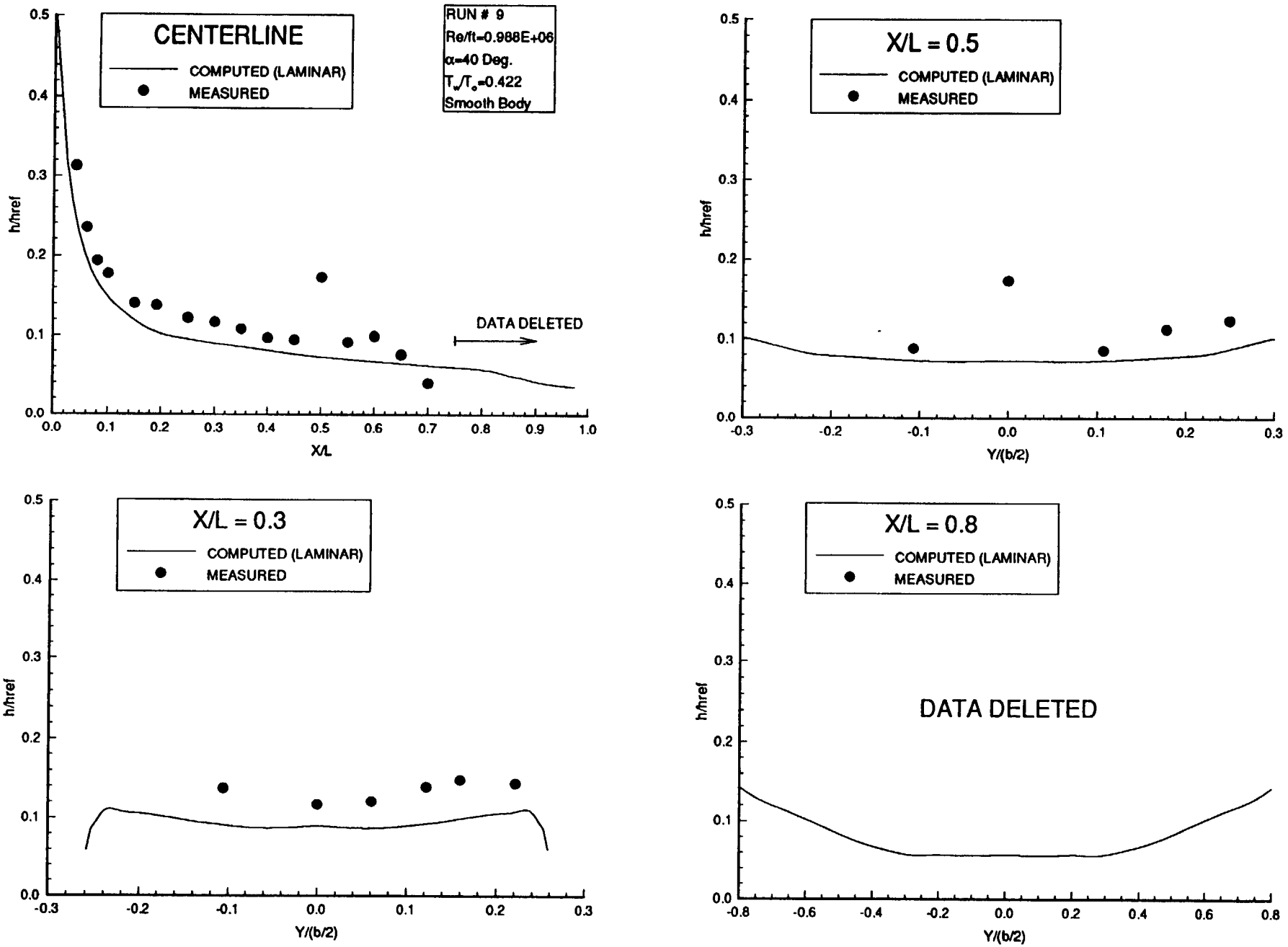


Figure B-7. - Heat Transfer Coefficient Data.

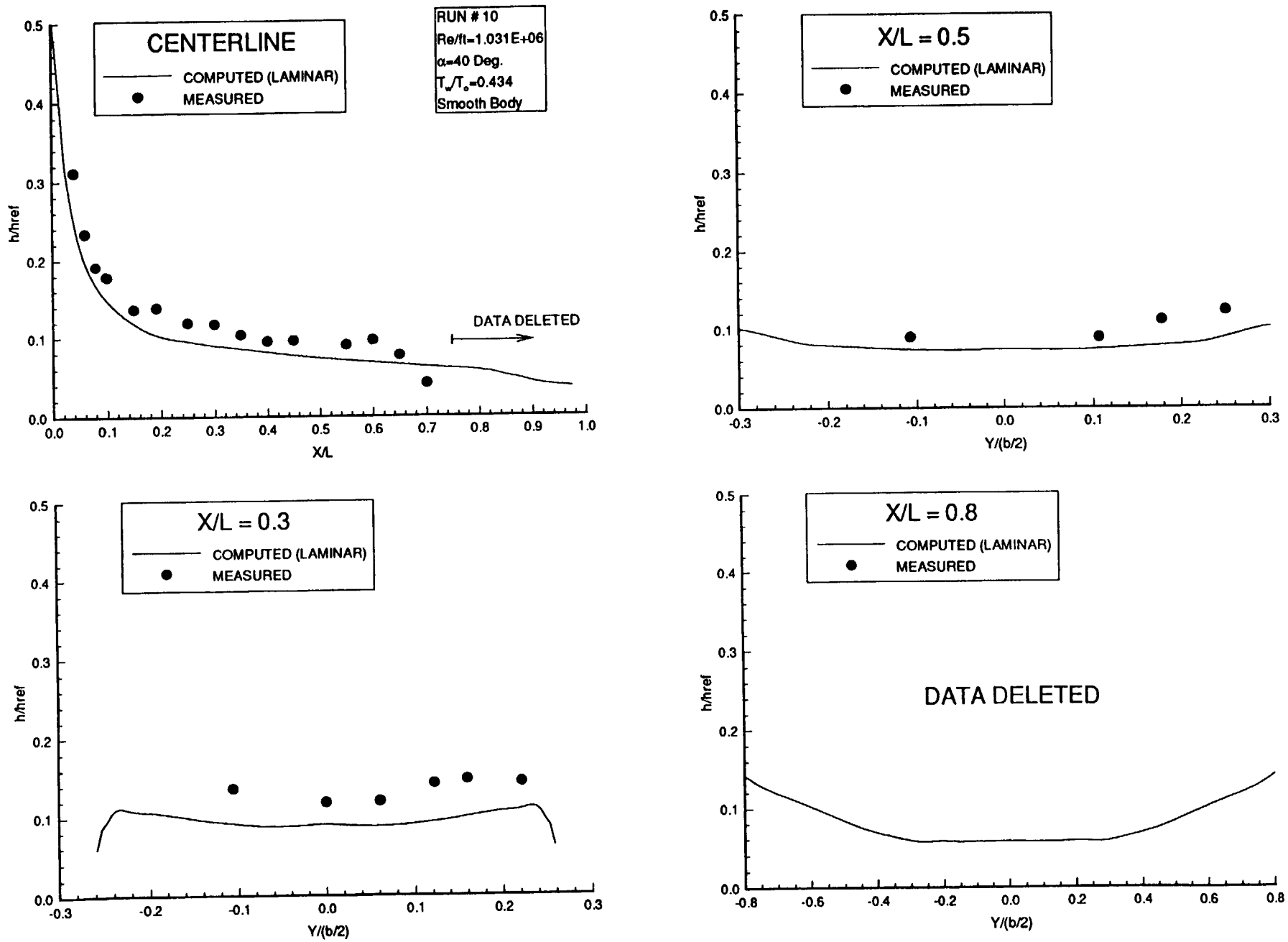


Figure B-8. - Heat Transfer Coefficient Data.

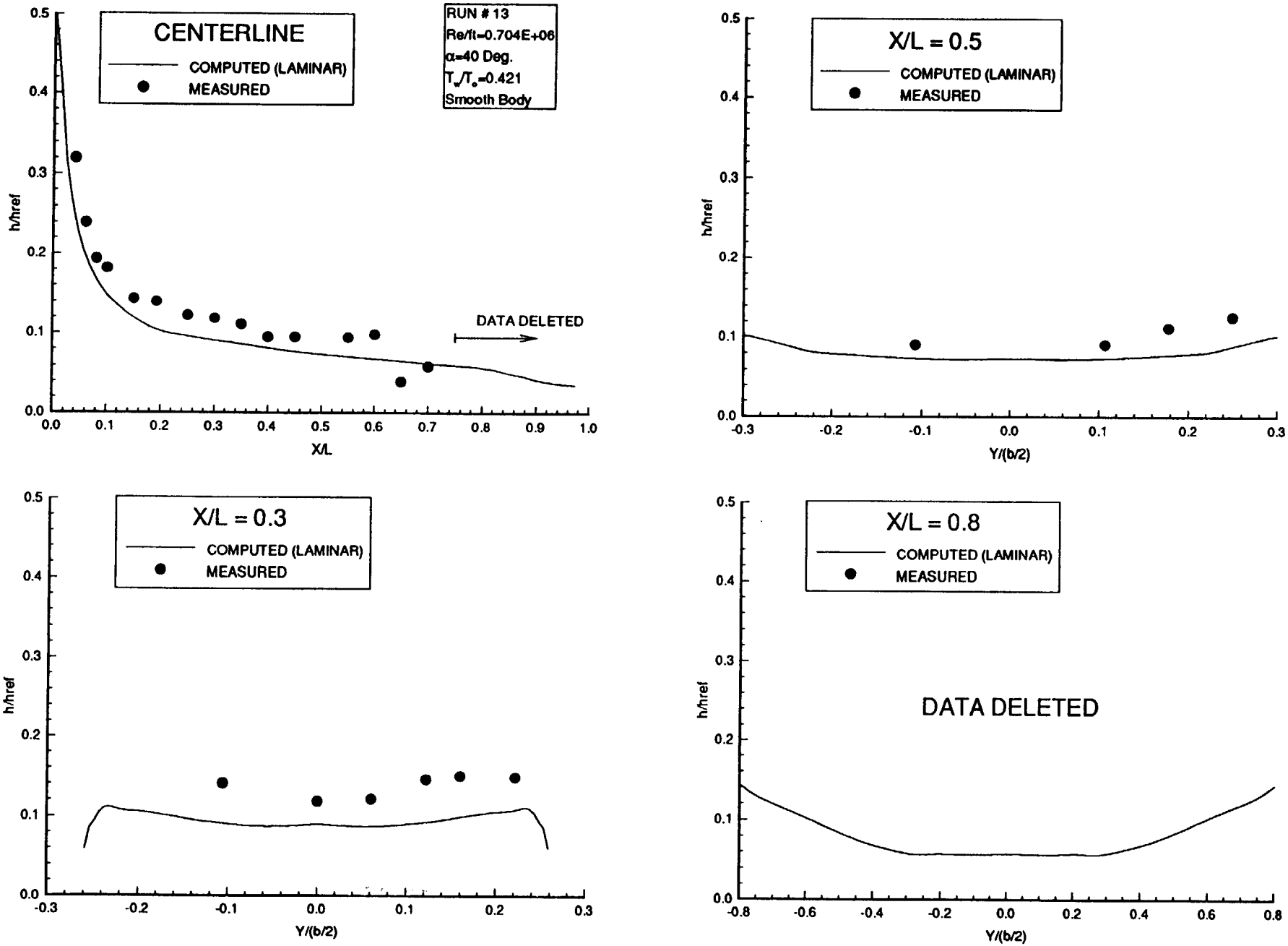


Figure B-9. - Heat Transfer Coefficient Data.

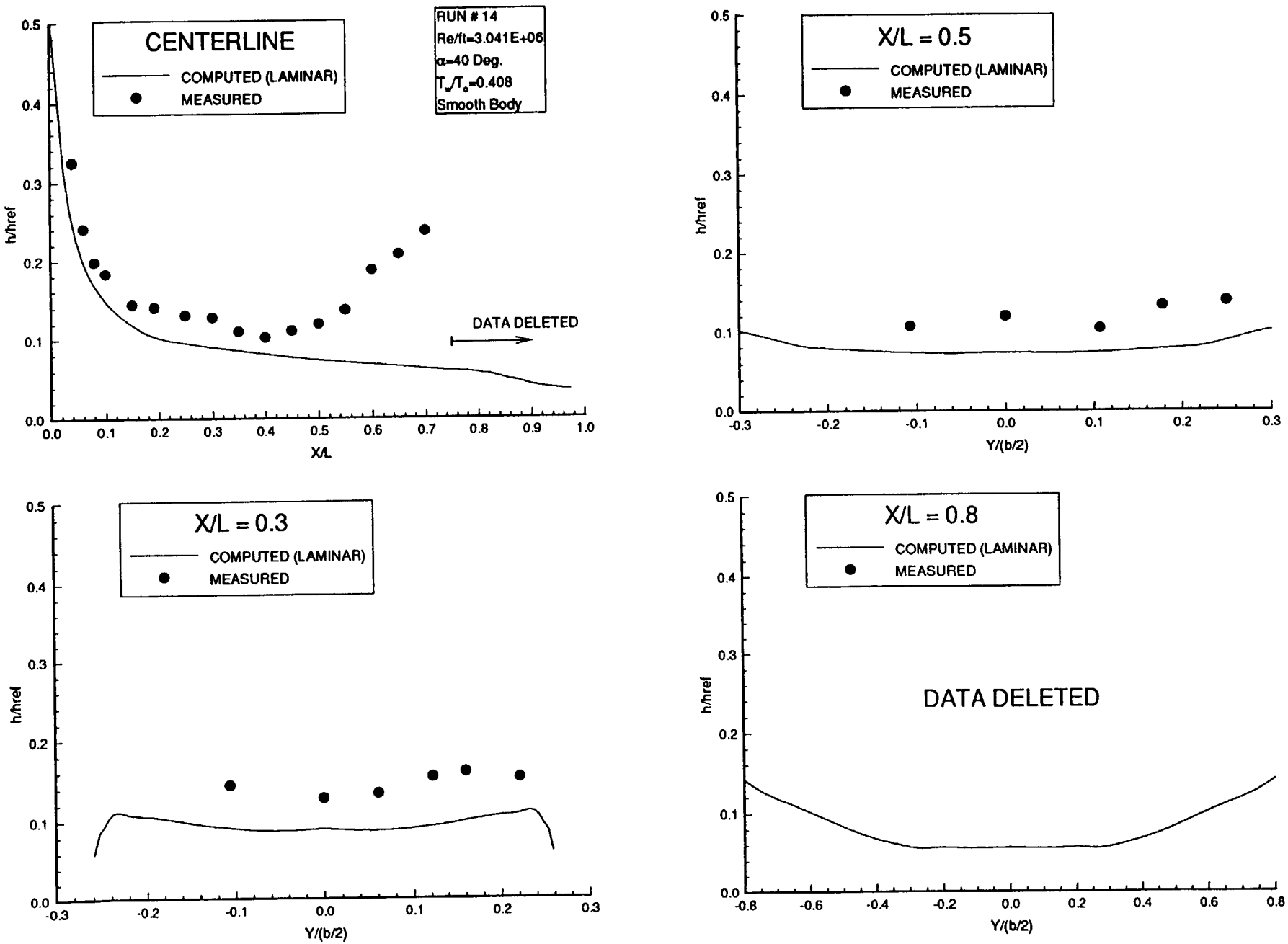


Figure B-10. - Heat Transfer Coefficient Data.

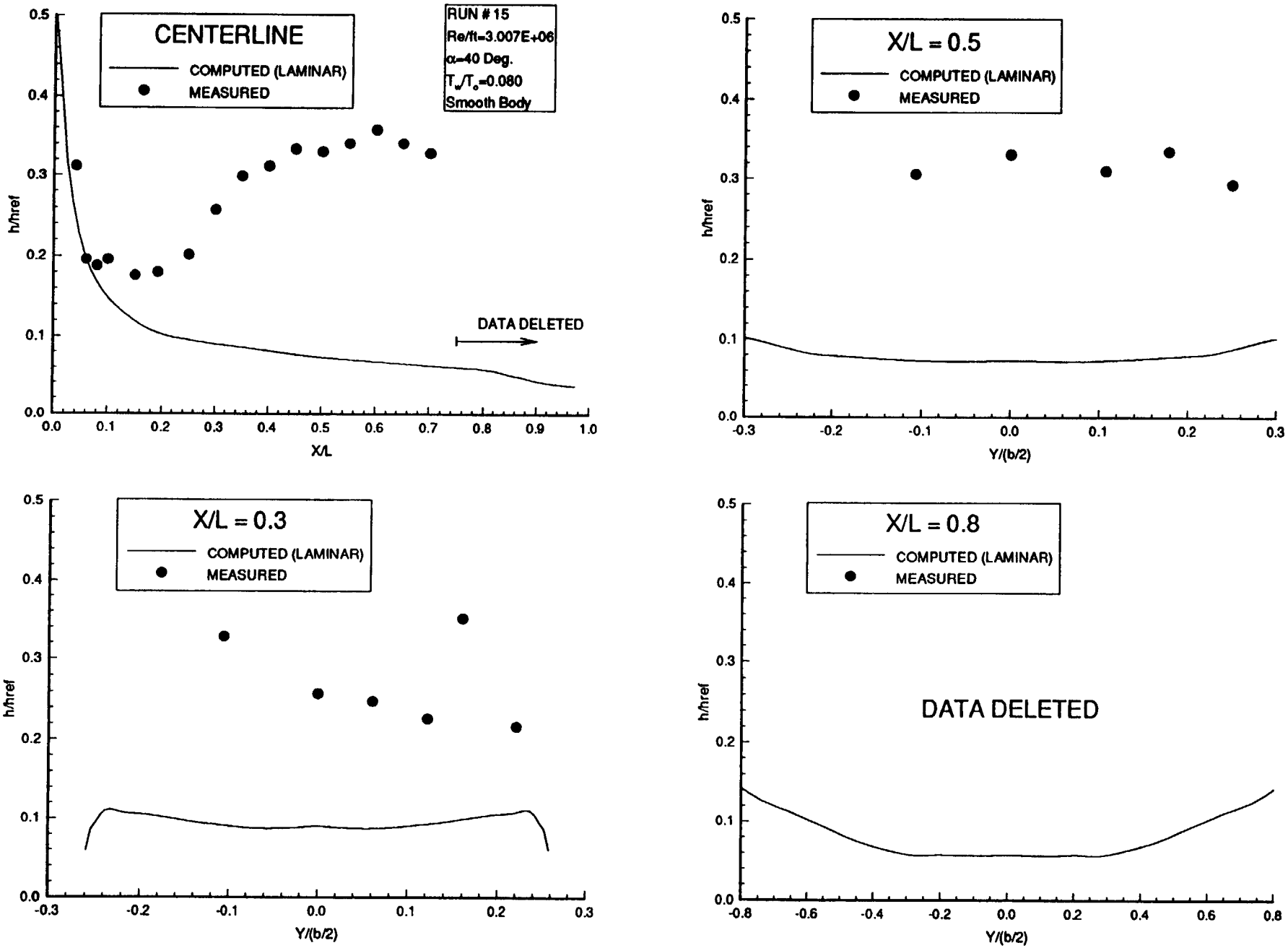


Figure B-11. - Heat Transfer Coefficient Data.

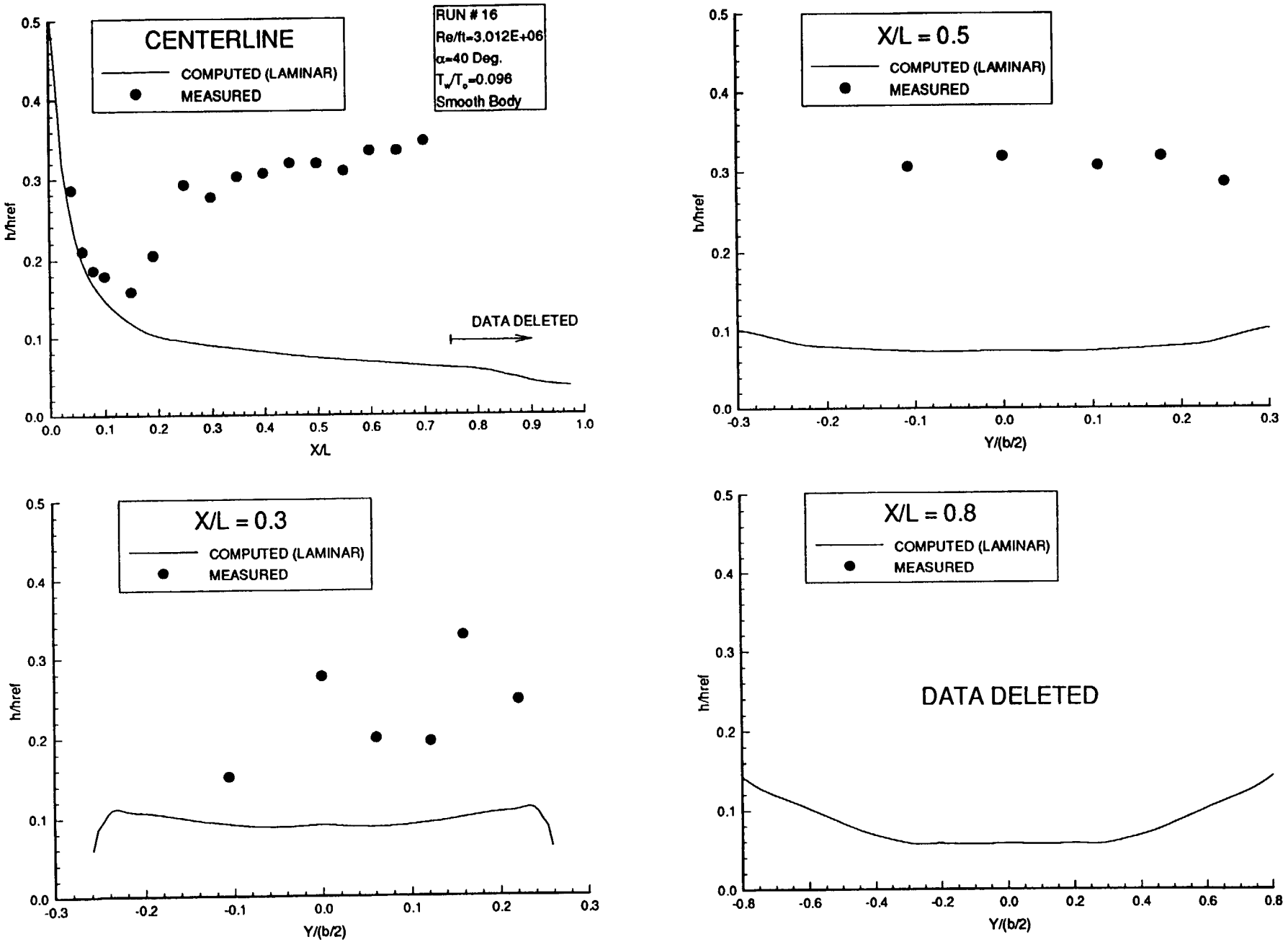


Figure B-12. - Heat Transfer Coefficient Data.

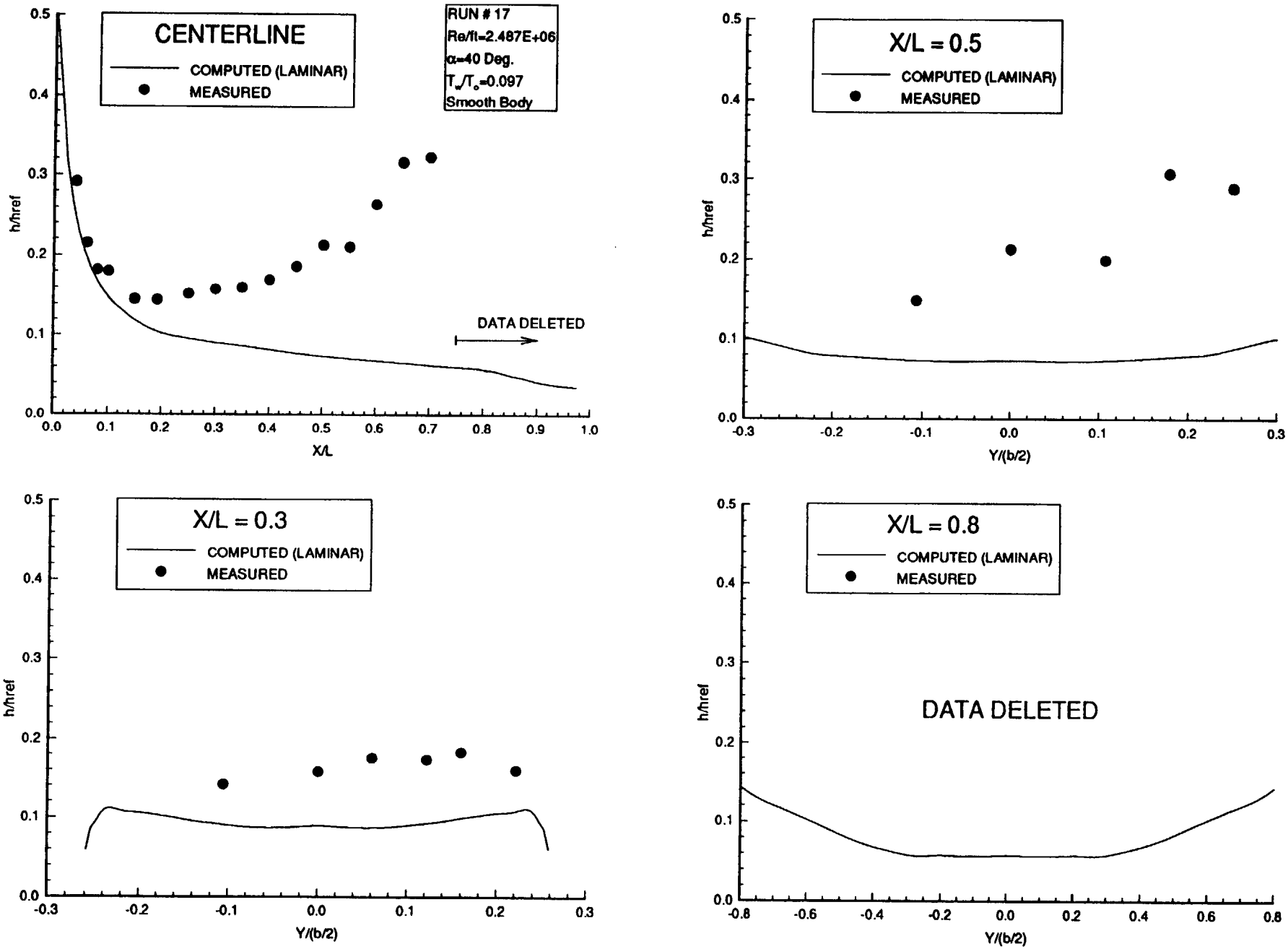


Figure B-13. - Heat Transfer Coefficient Data.

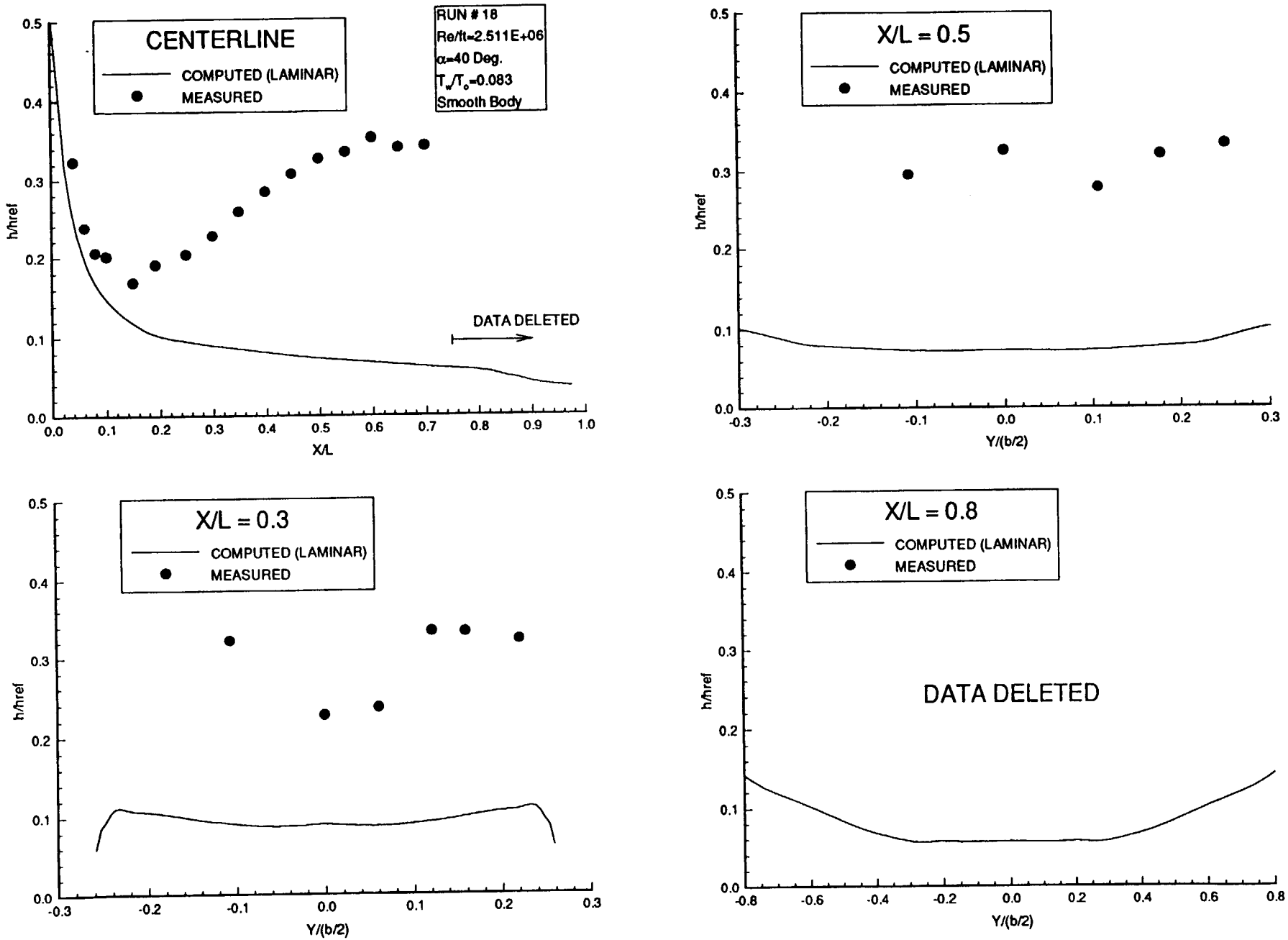


Figure B-14. - Heat Transfer Coefficient Data.

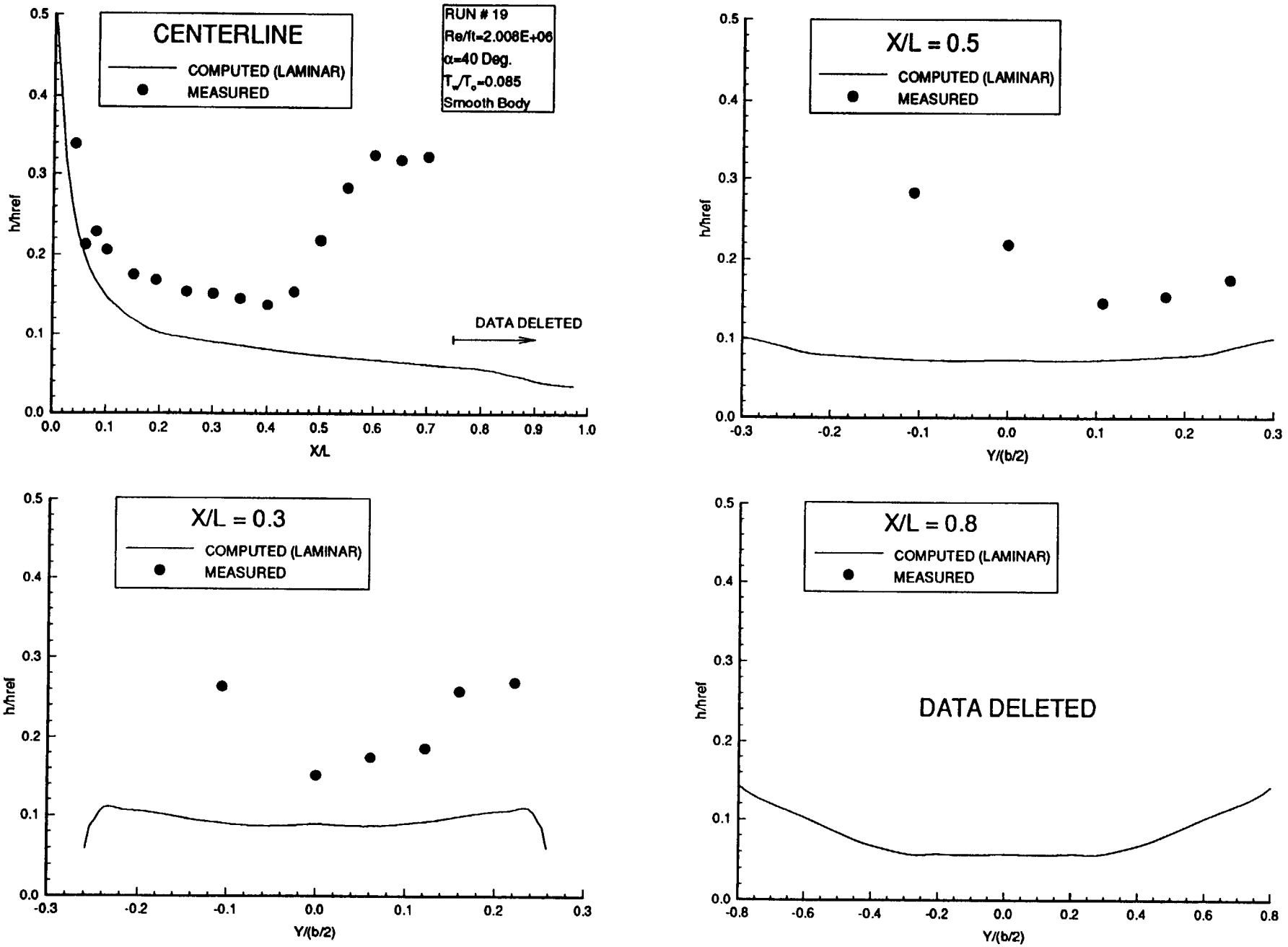


Figure B-15. - Heat Transfer Coefficient Data.

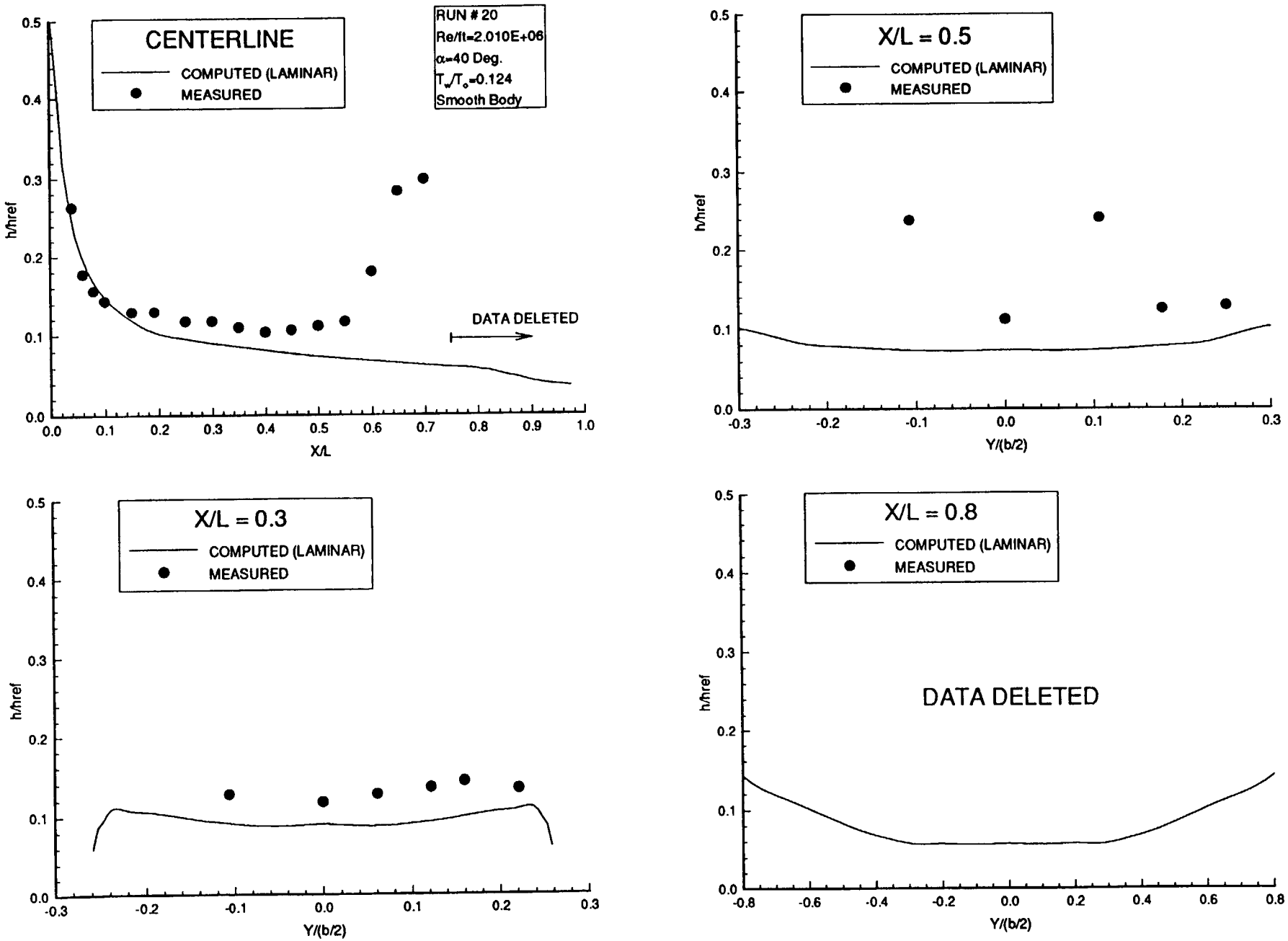


Figure B-16. - Heat Transfer Coefficient Data.

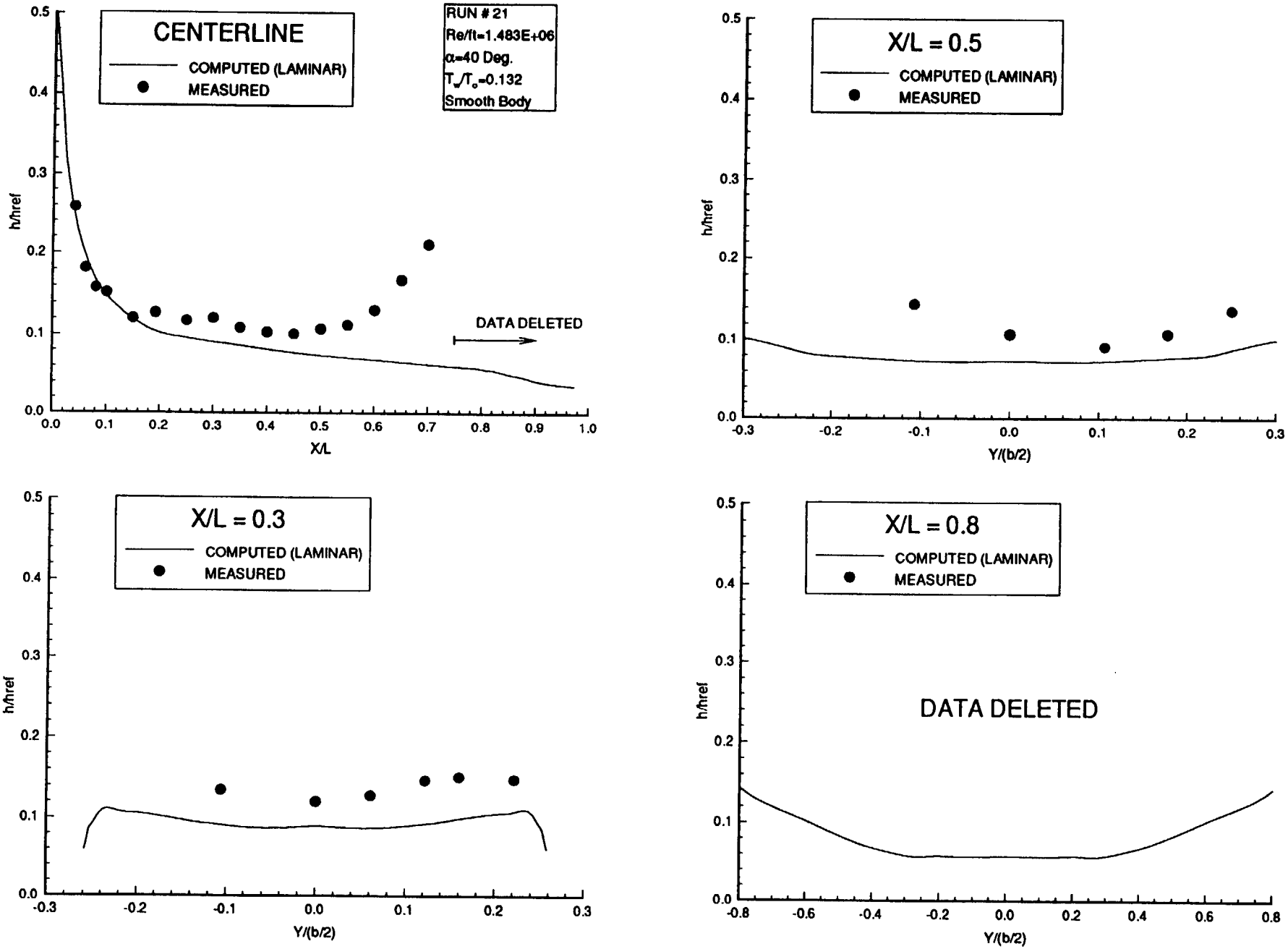


Figure B-17. - Heat Transfer Coefficient Data.

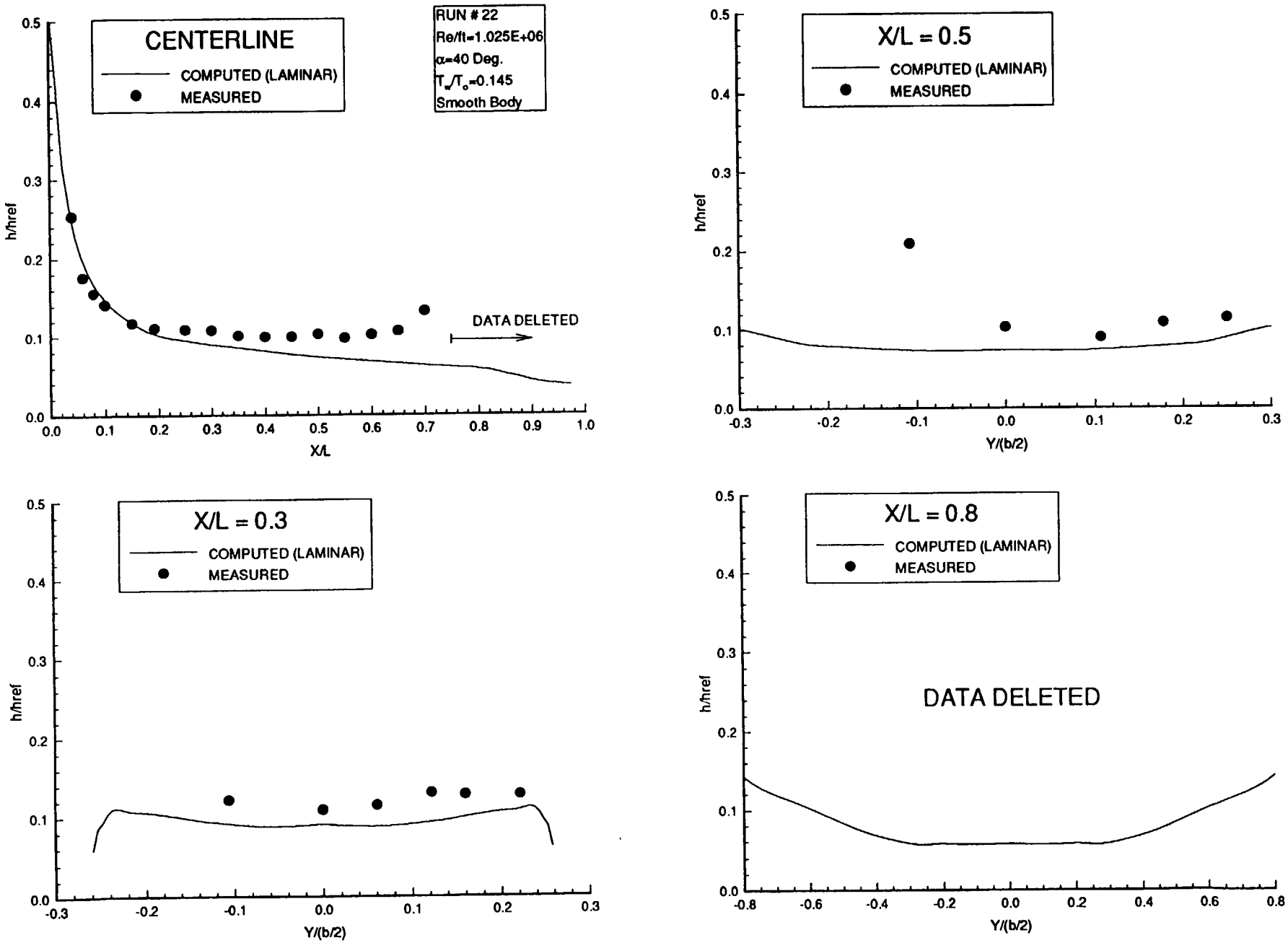


Figure B-18. - Heat Transfer Coefficient Data.

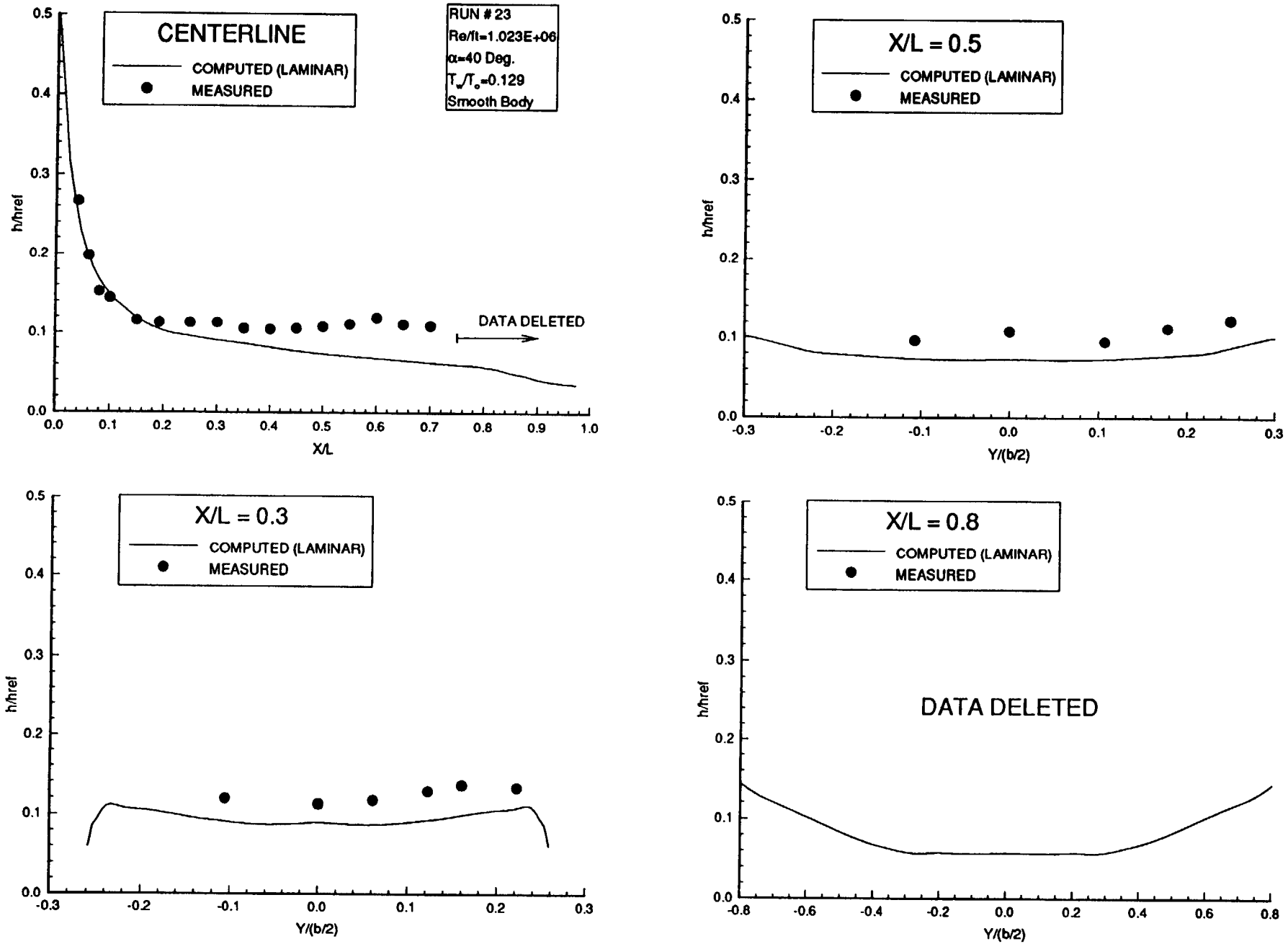
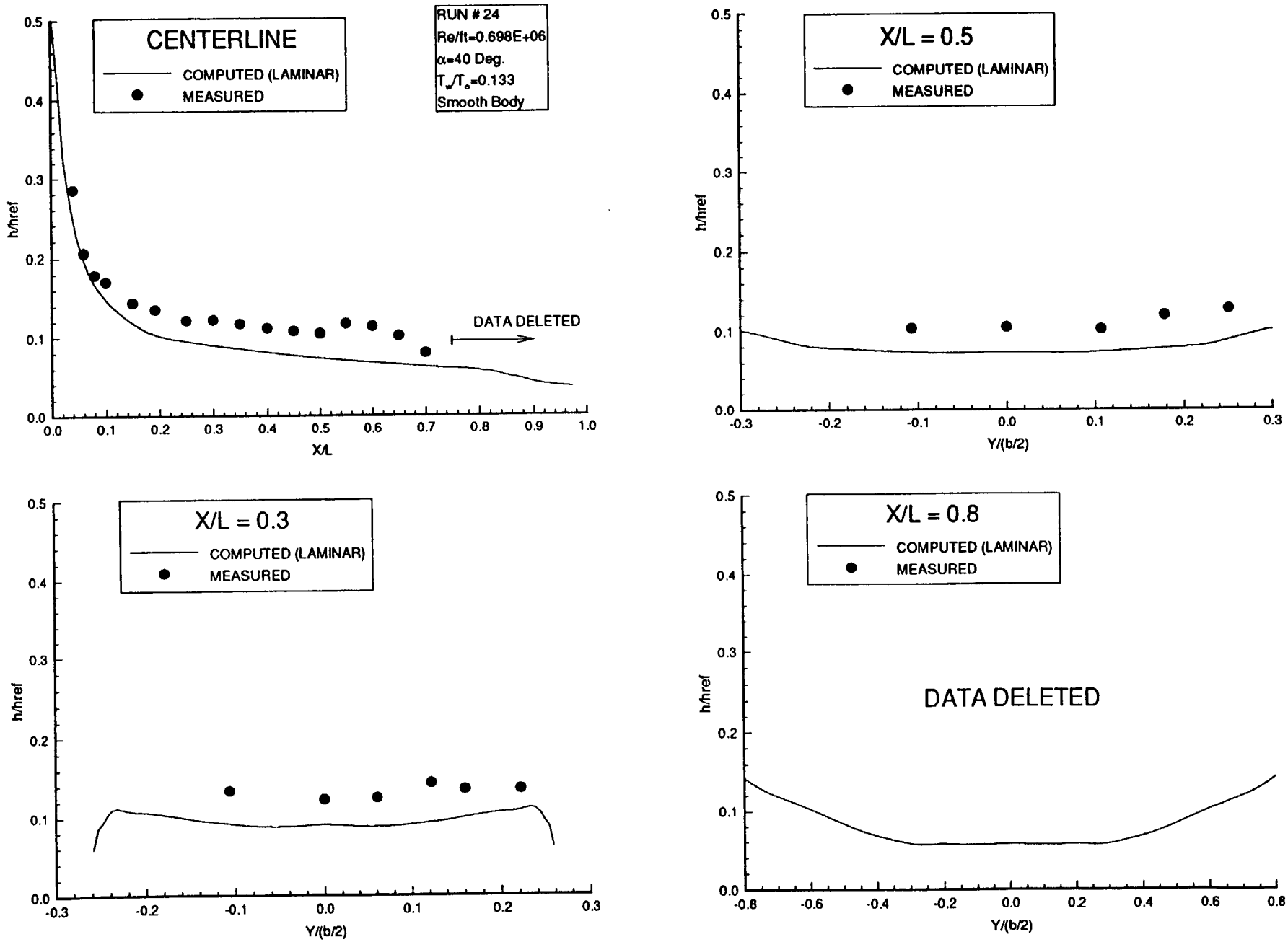


Figure B-19. - Heat Transfer Coefficient Data.



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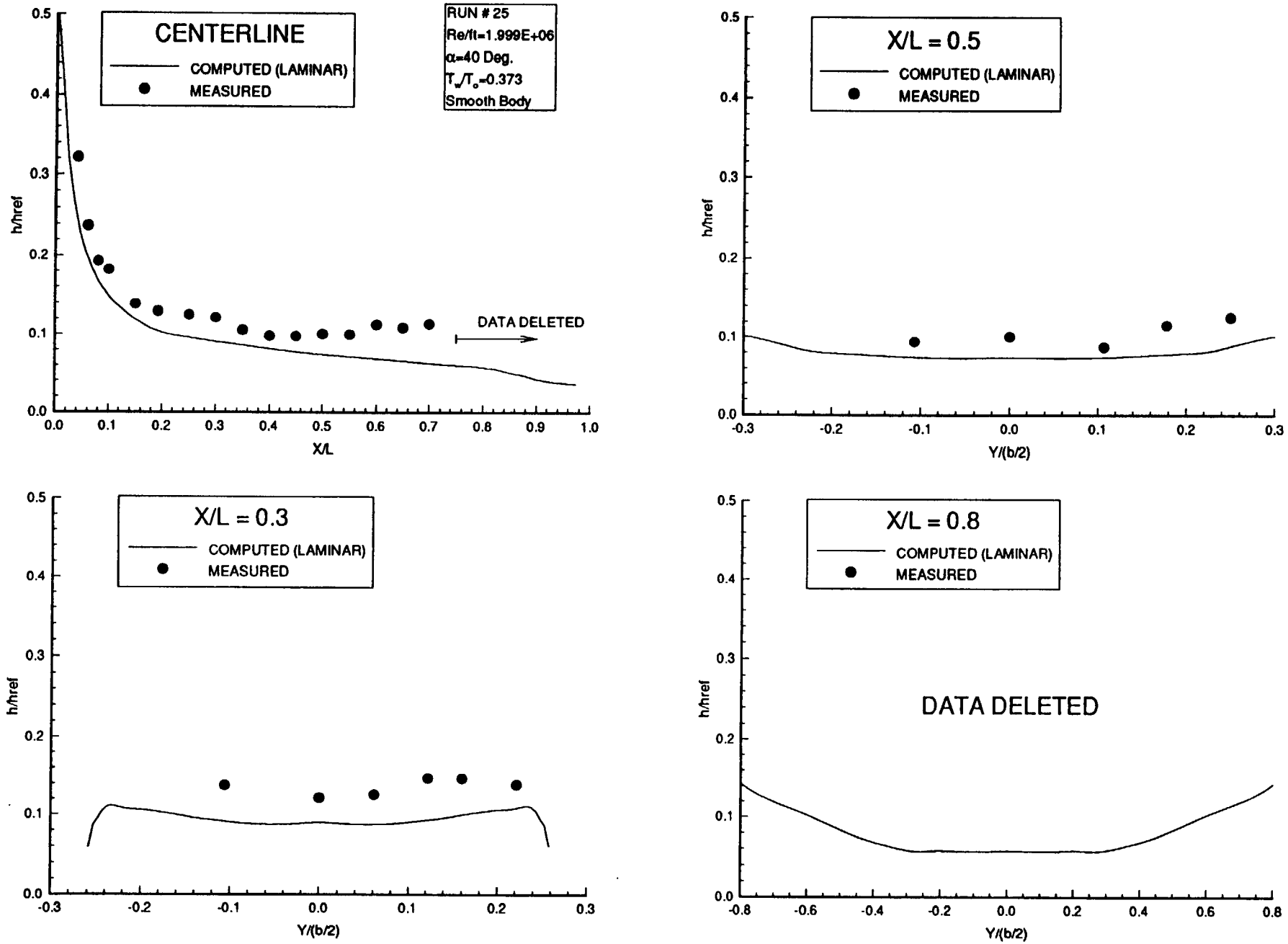

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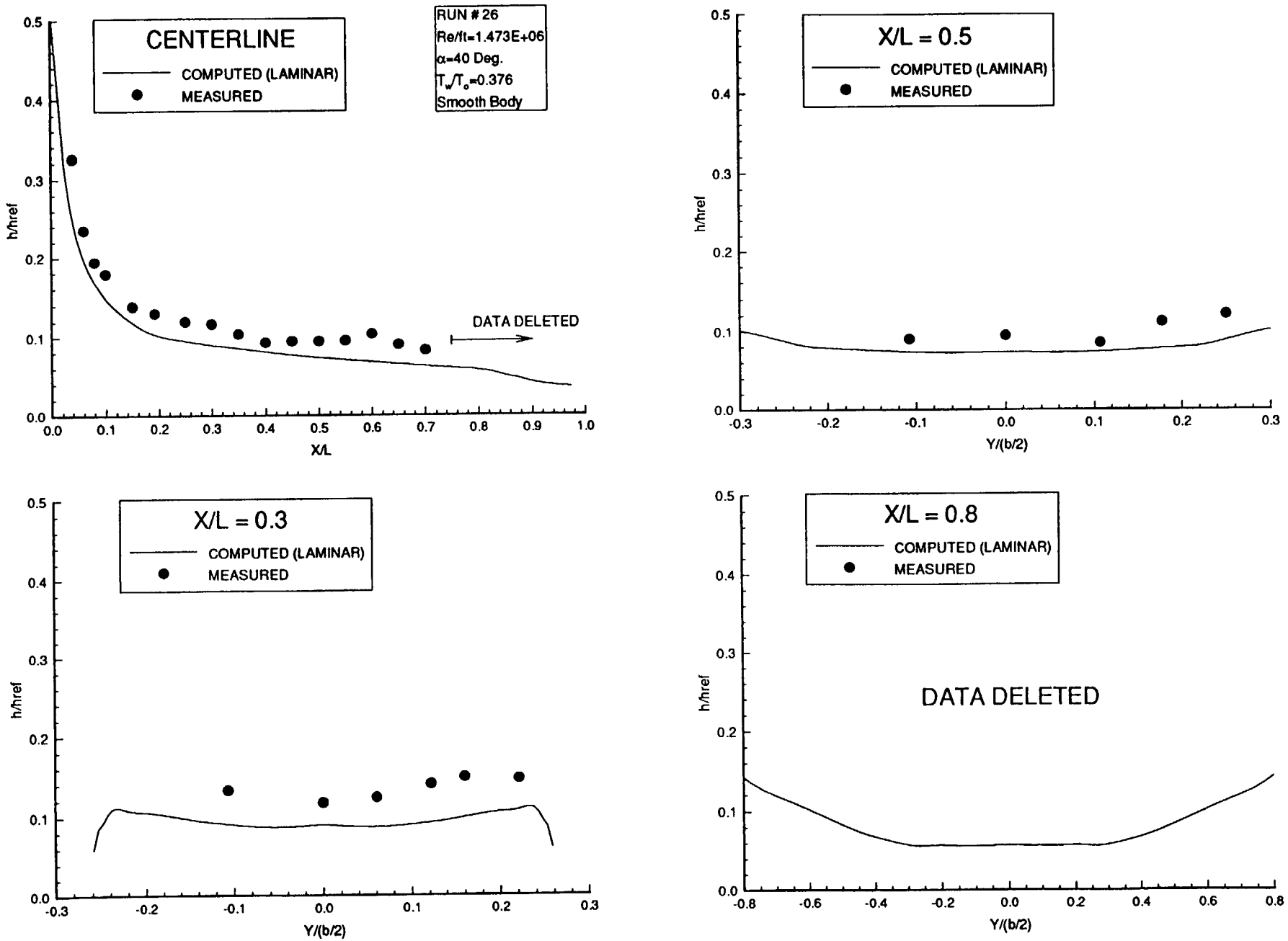

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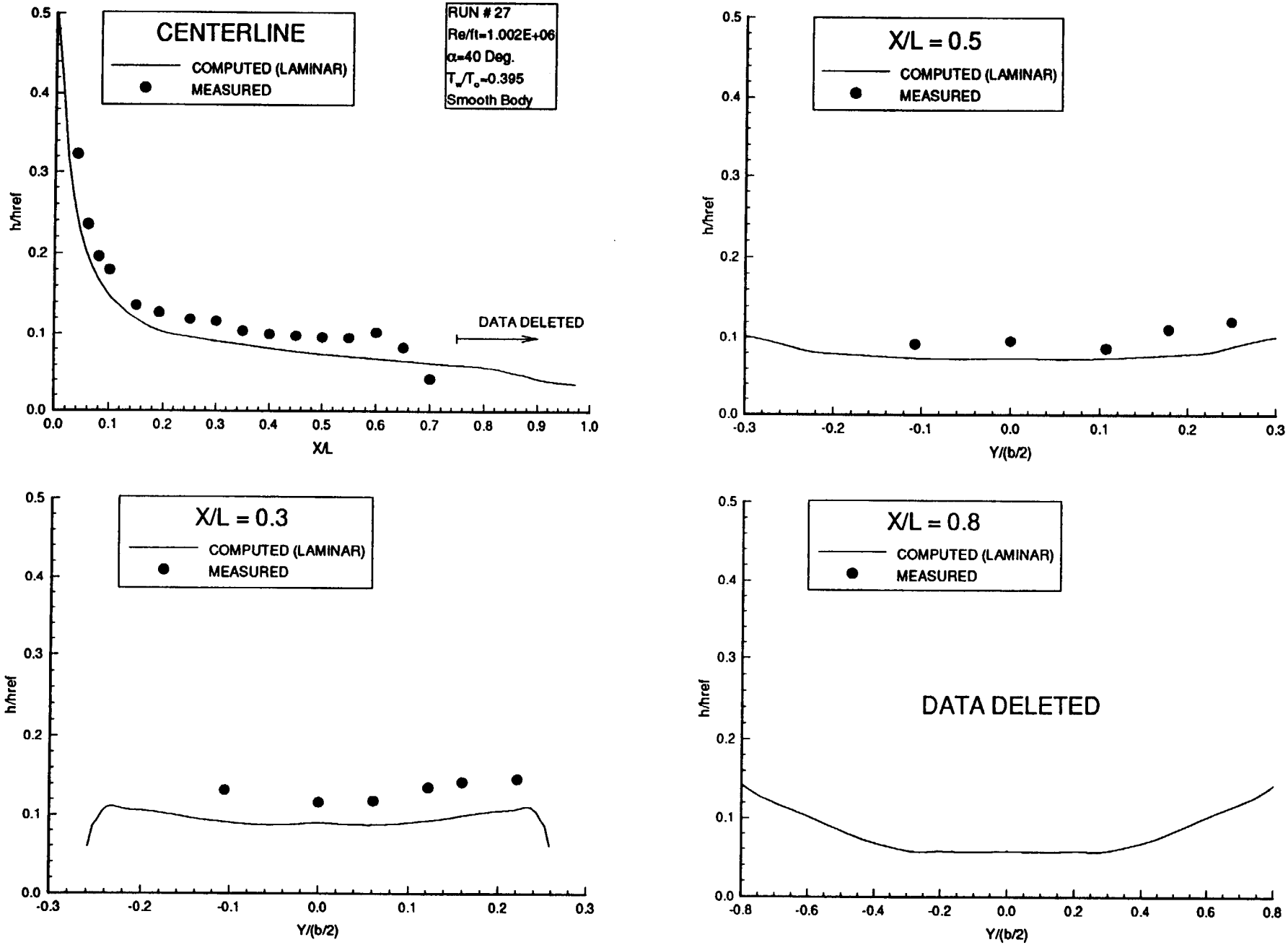

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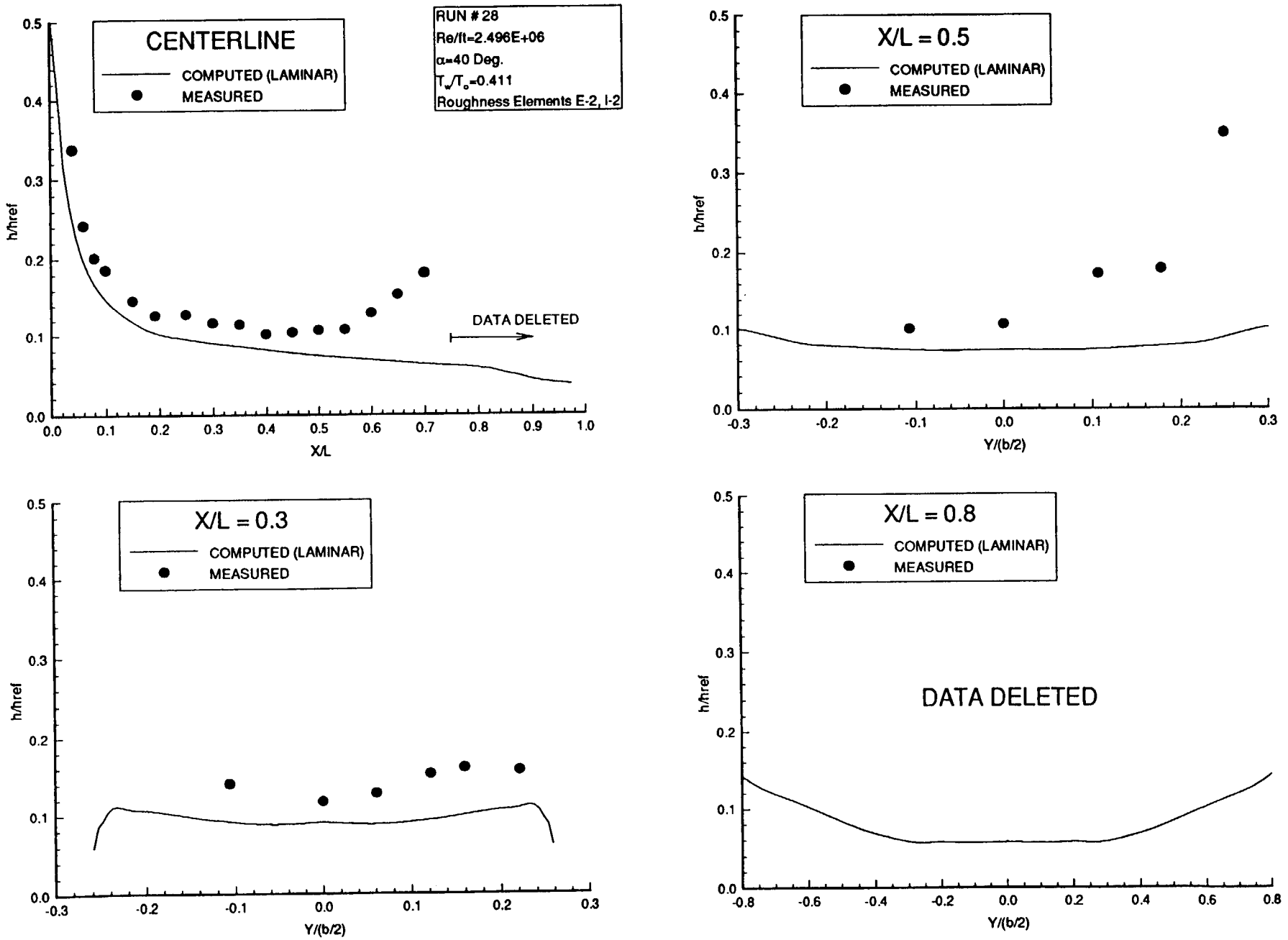

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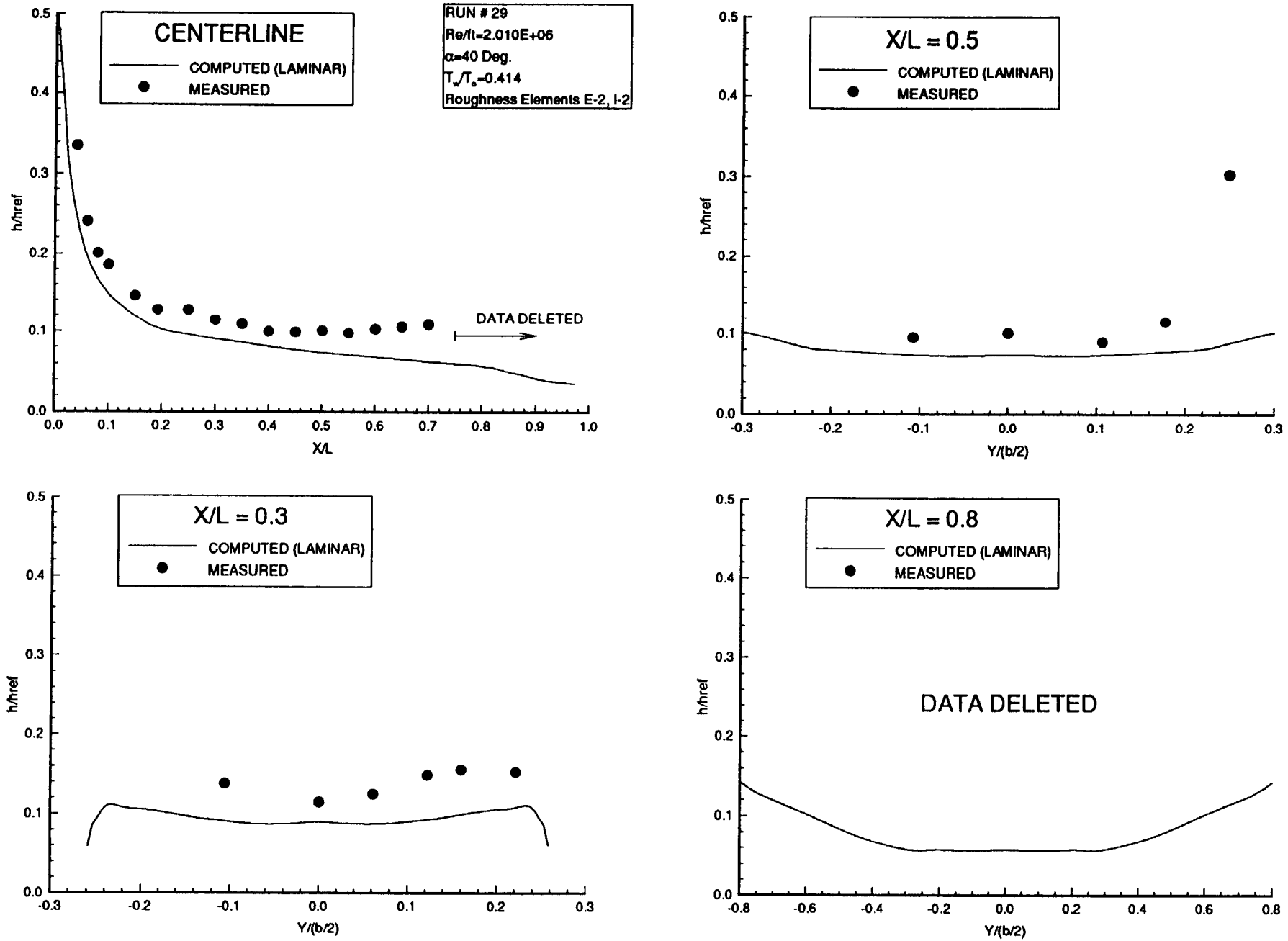


Figure B-25. - Heat Transfer Coefficient Data.

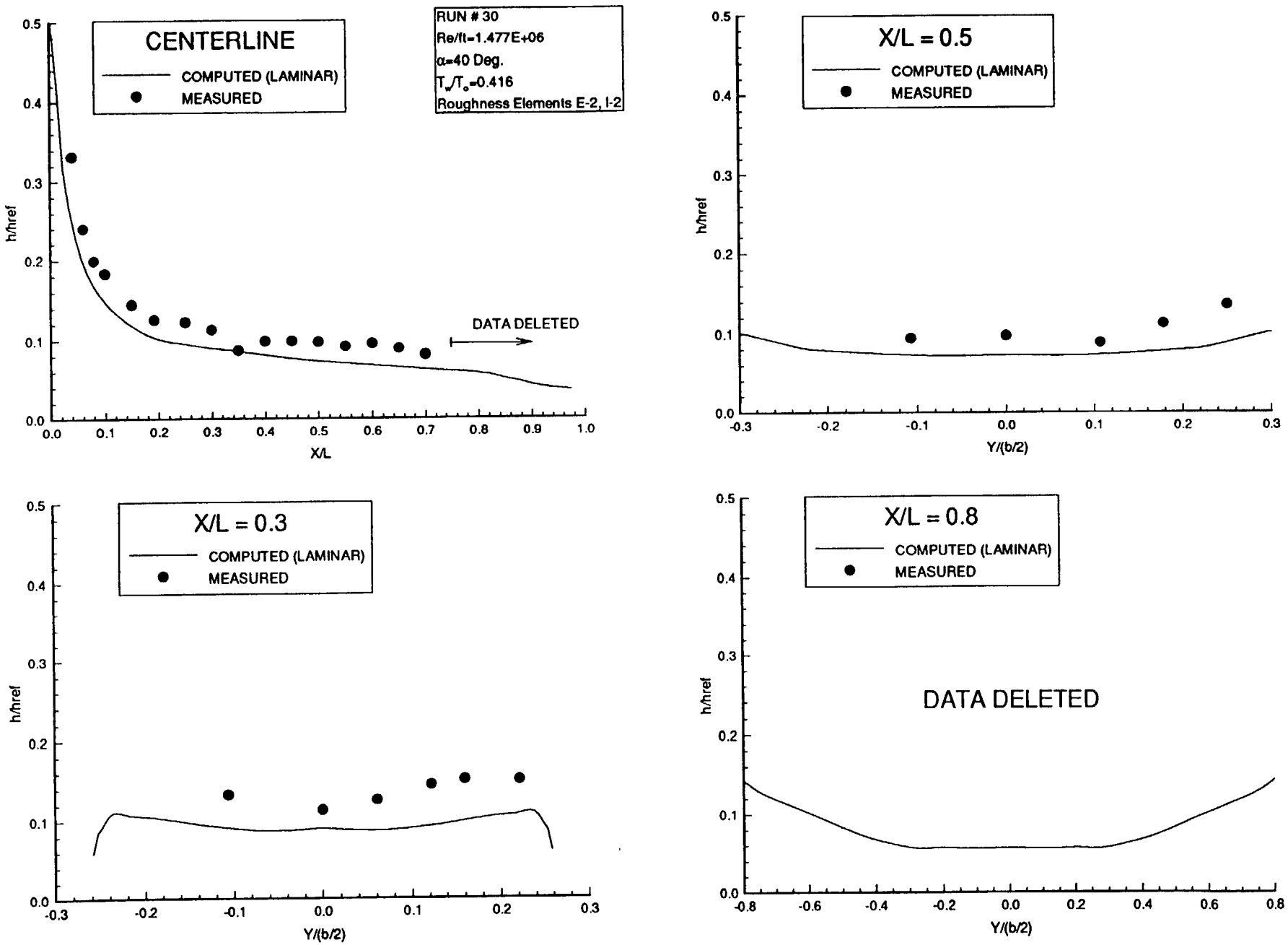


Figure B-26. - Heat Transfer Coefficient Data.

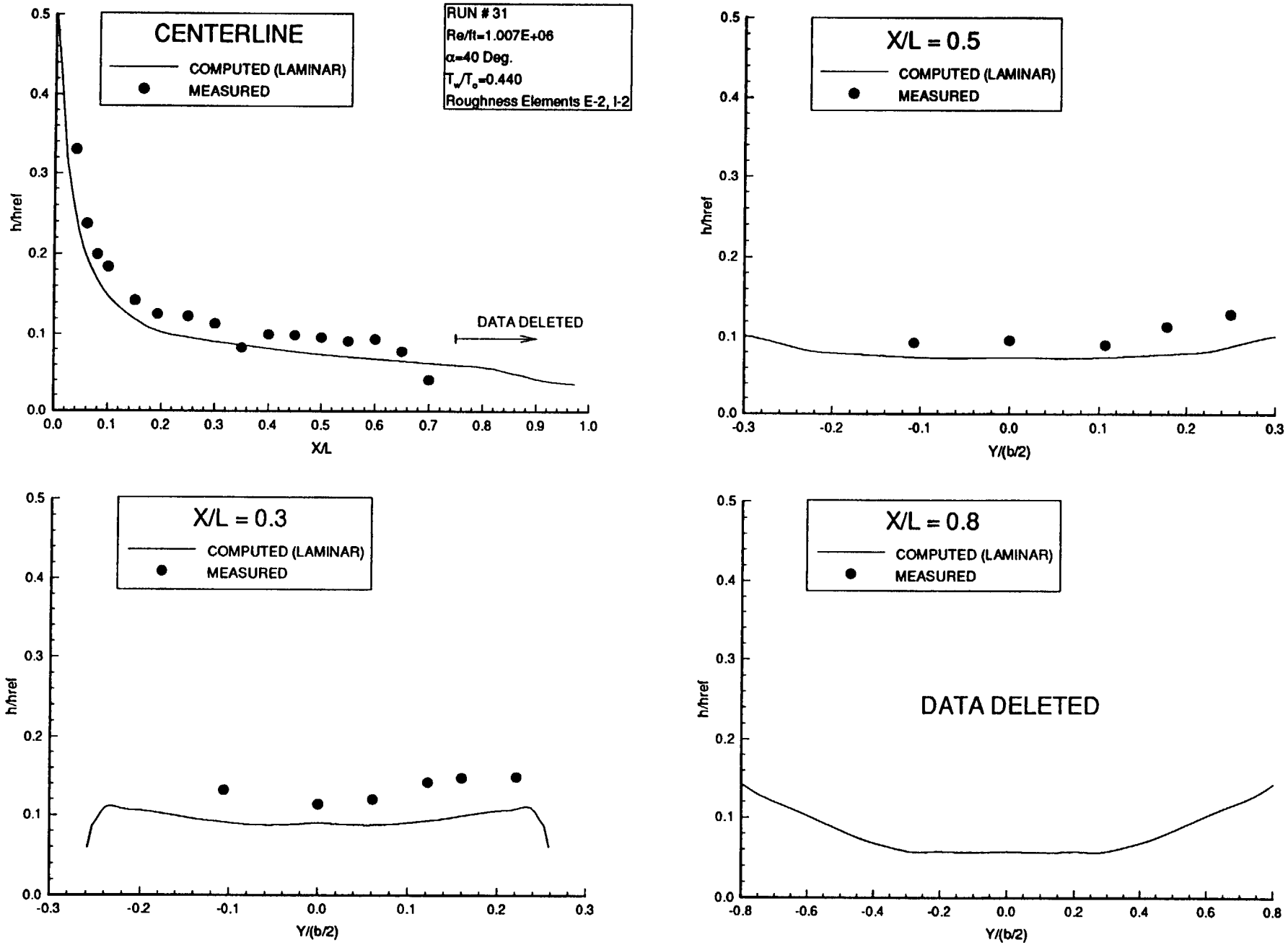
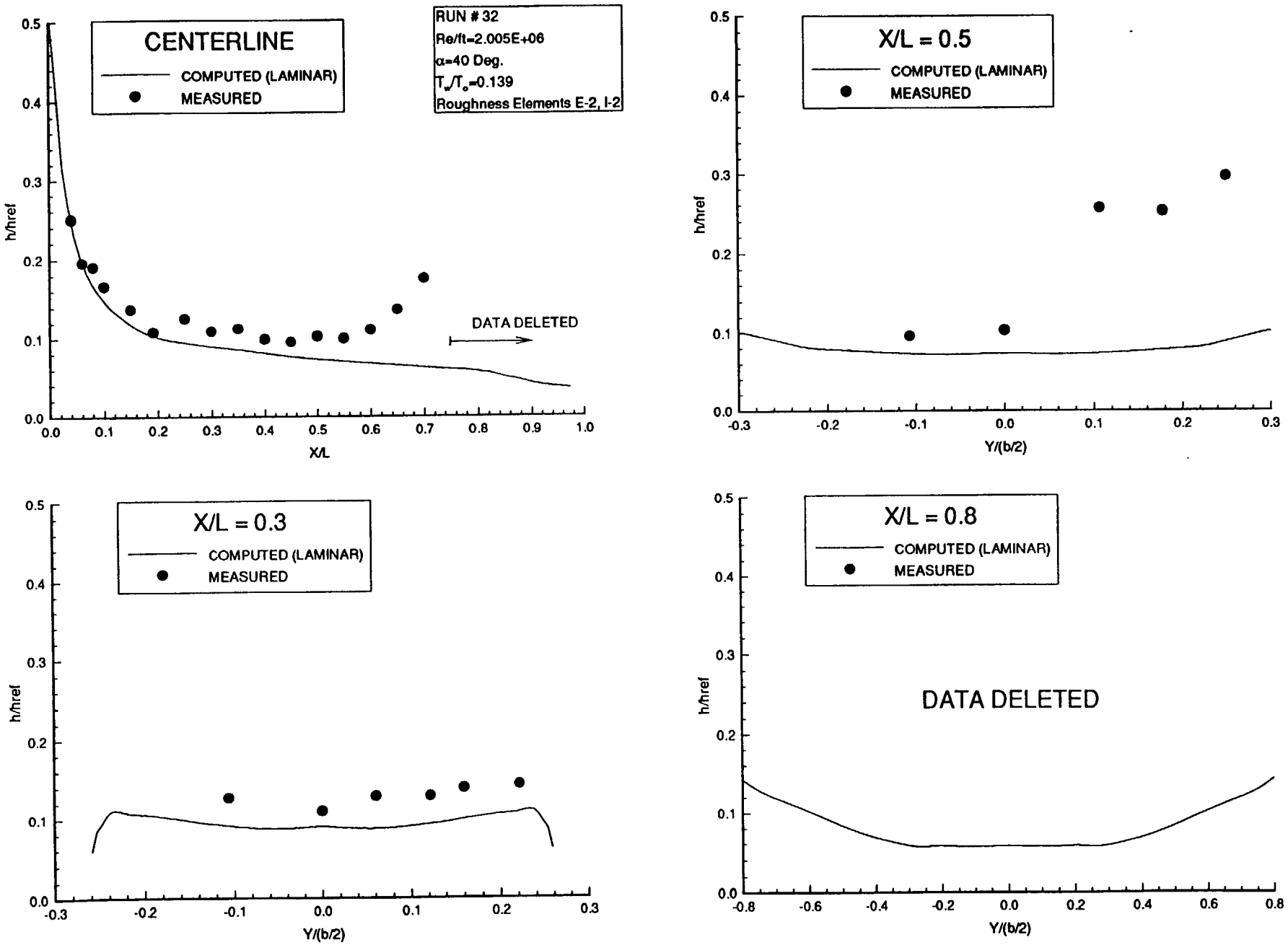


Figure B-27. - Heat Transfer Coefficient Data.



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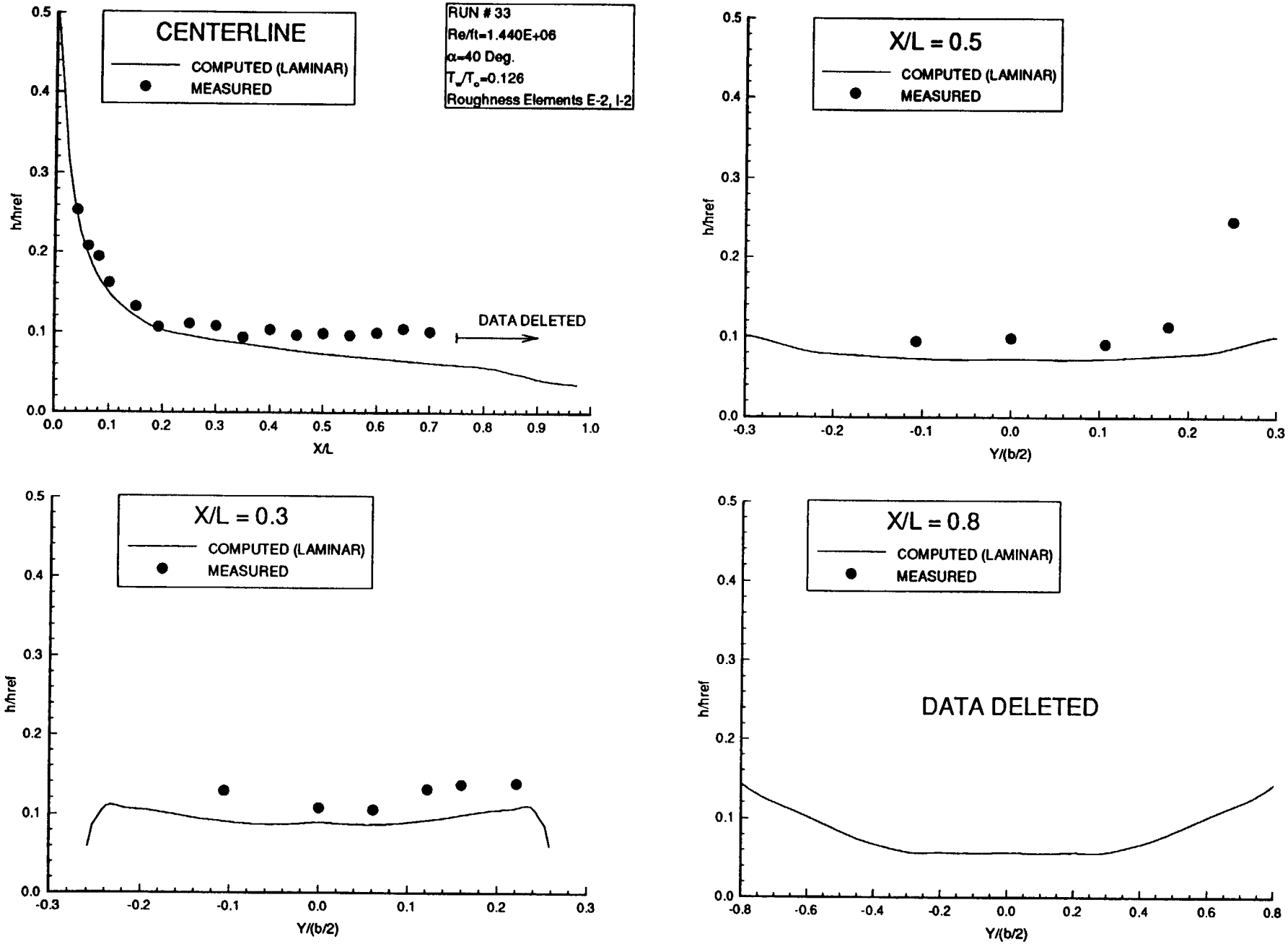

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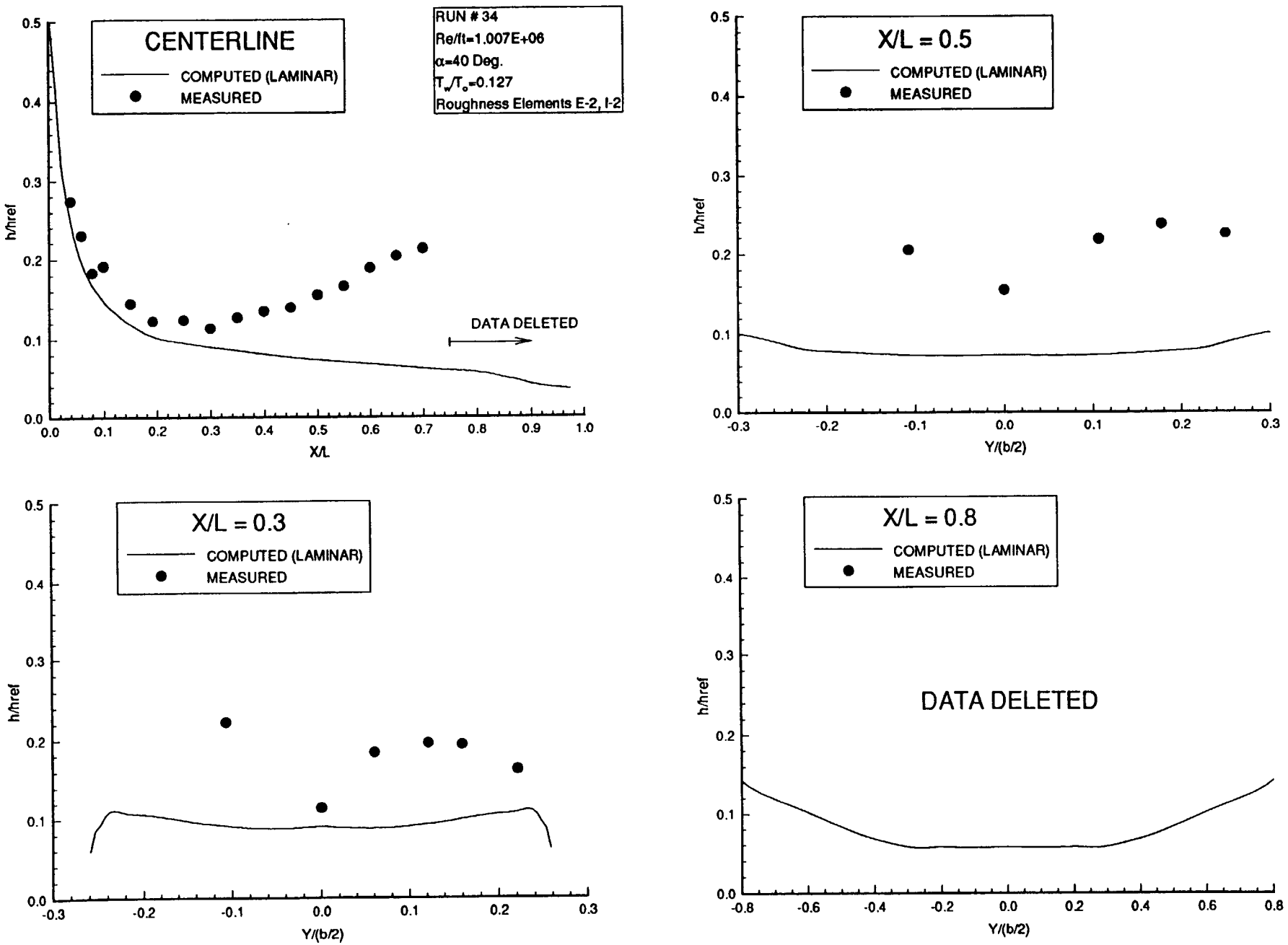


Figure B-30. - Heat Transfer Coefficient Data.

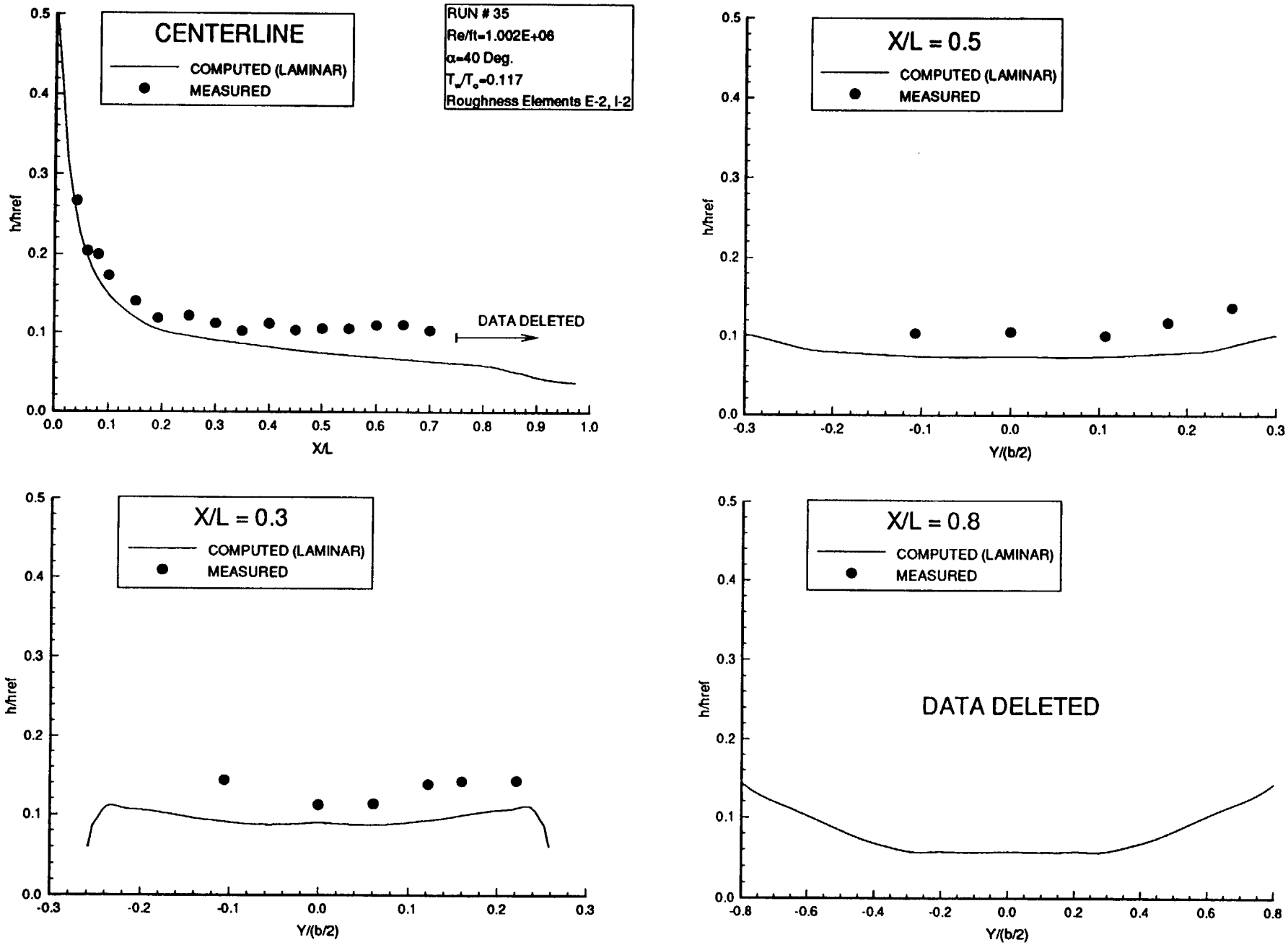
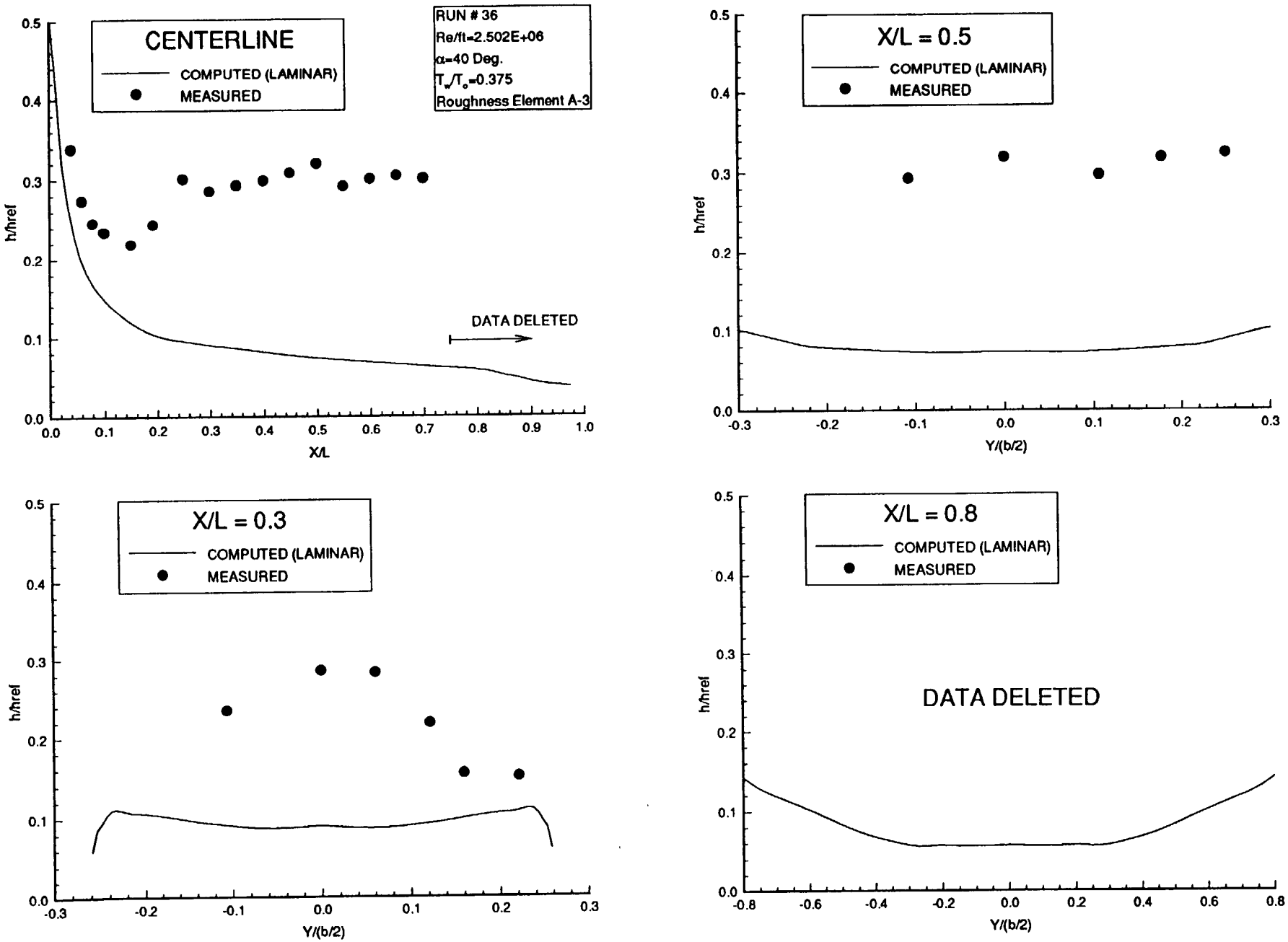


Figure B-31. - Heat Transfer Coefficient Data.



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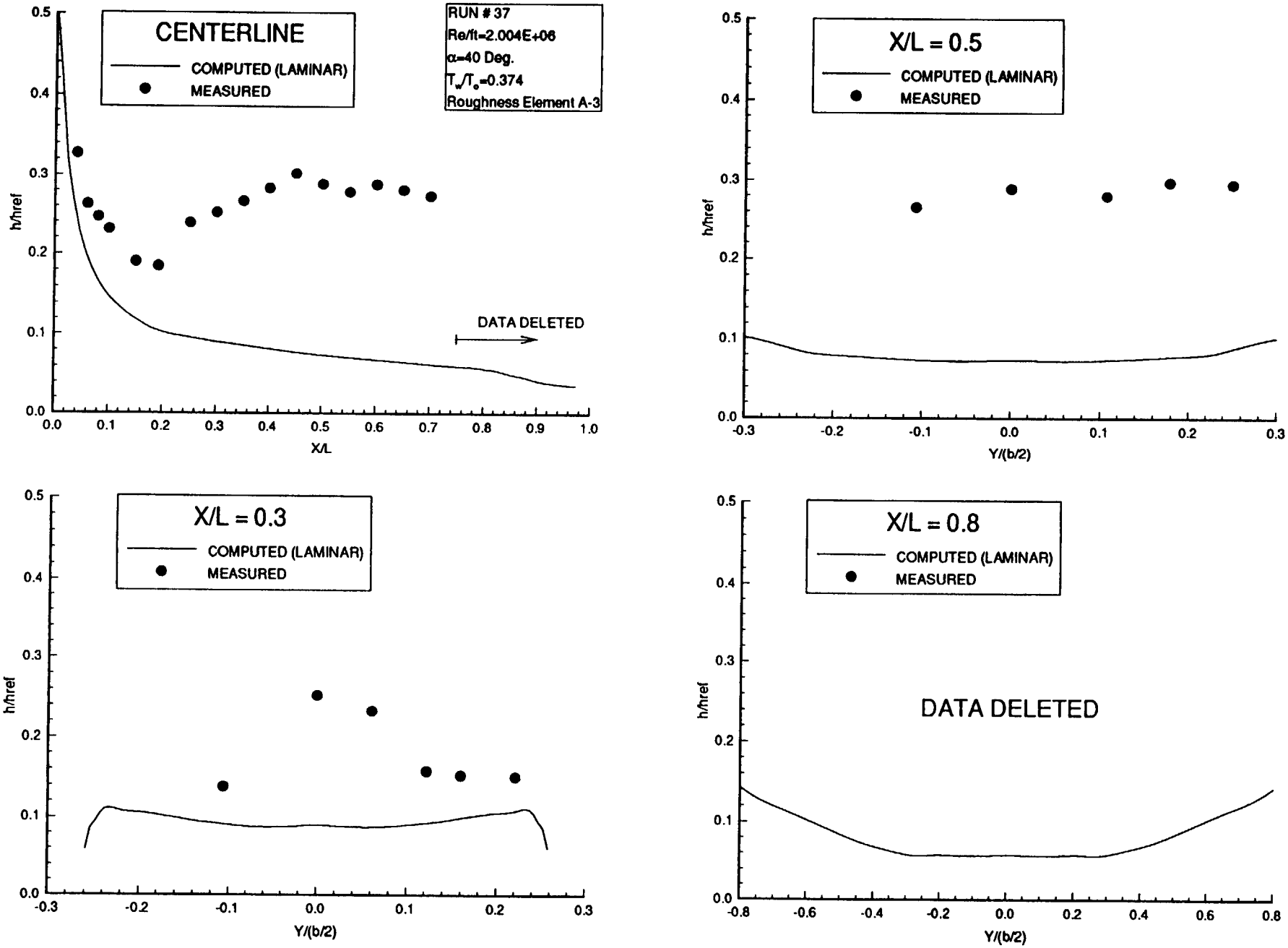


Figure B-33. - Heat Transfer Coefficient Data.

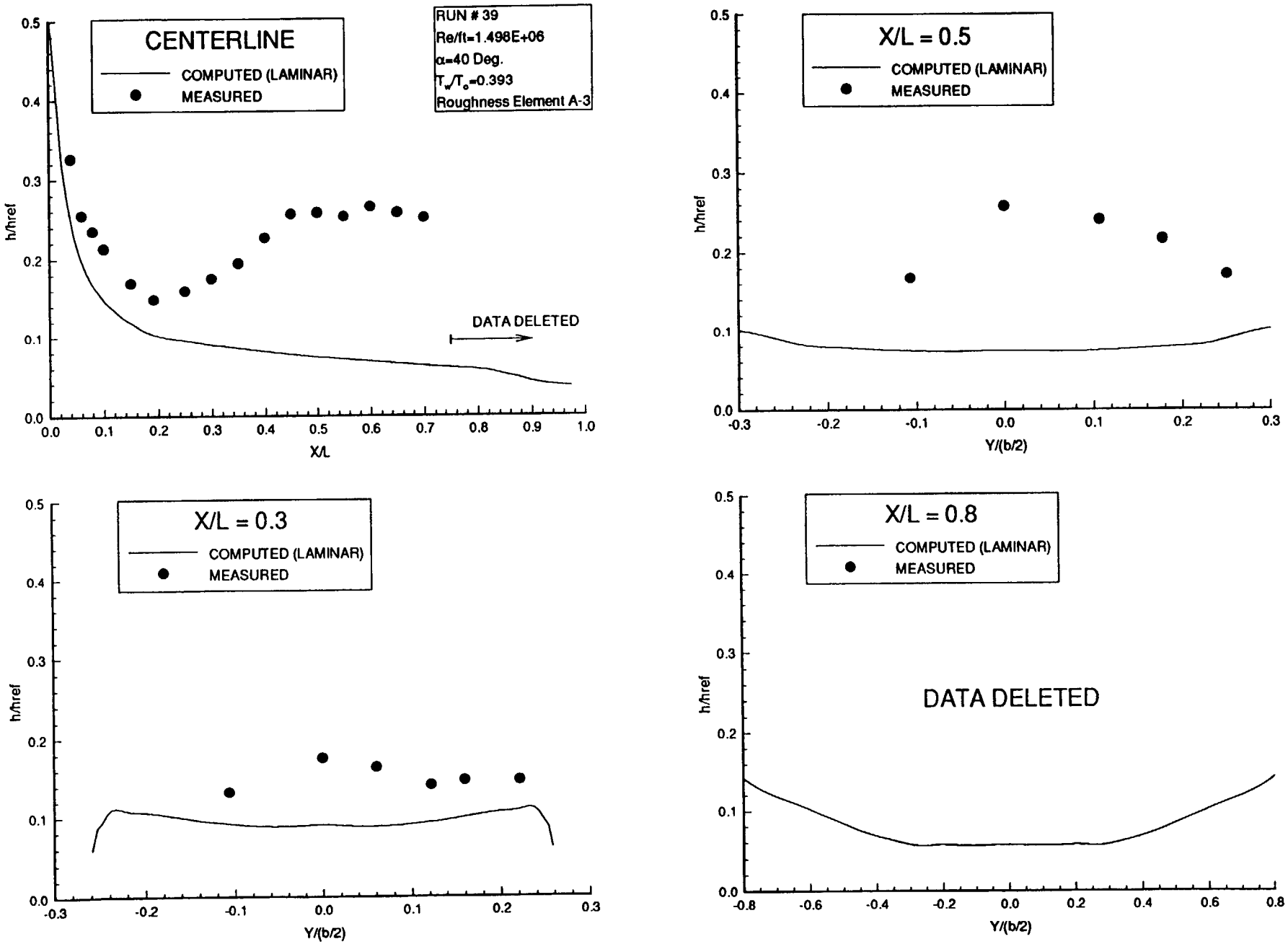


Figure B-34. - Heat Transfer Coefficient Data.

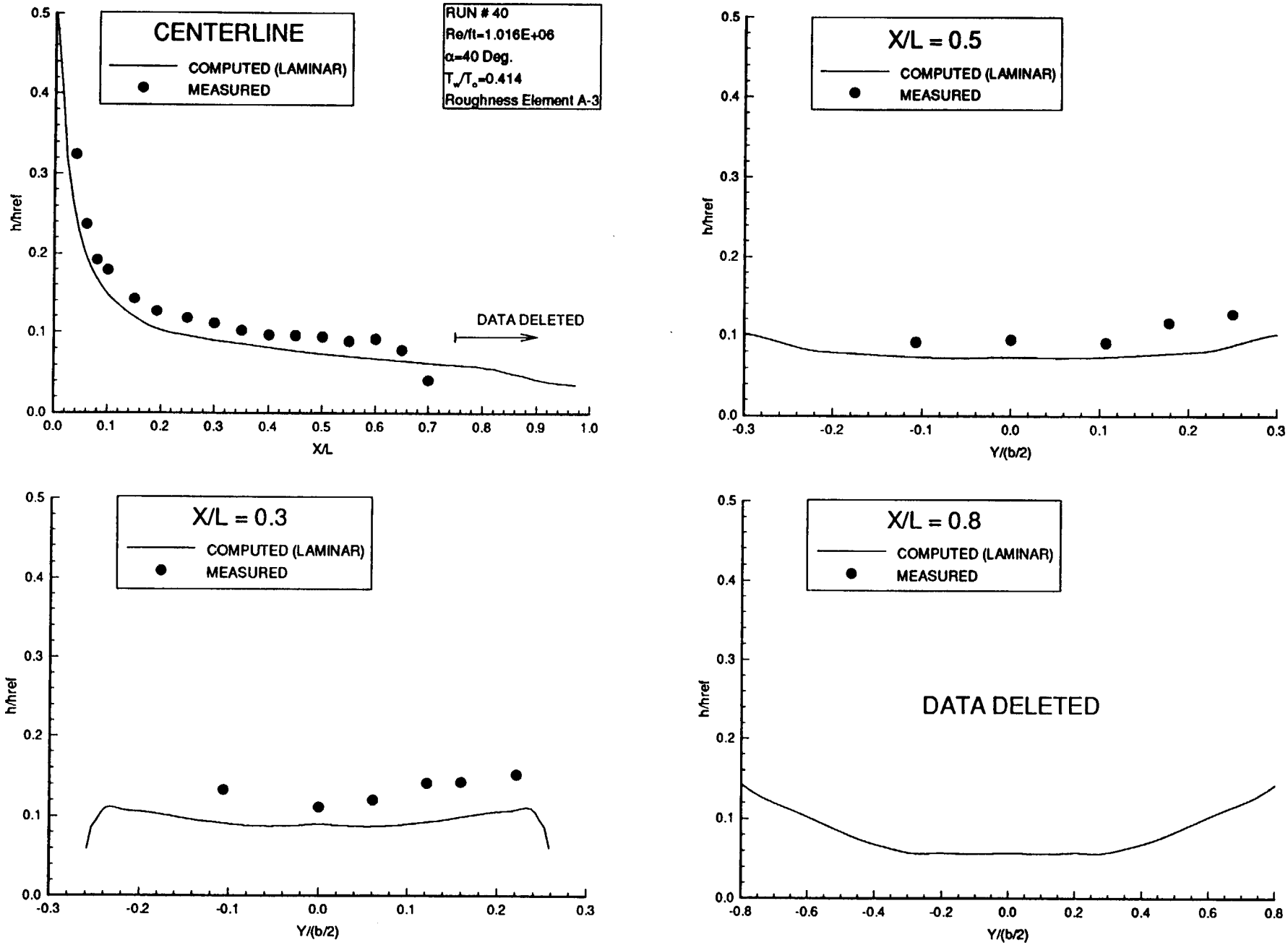


Figure B-35. - Heat Transfer Coefficient Data.

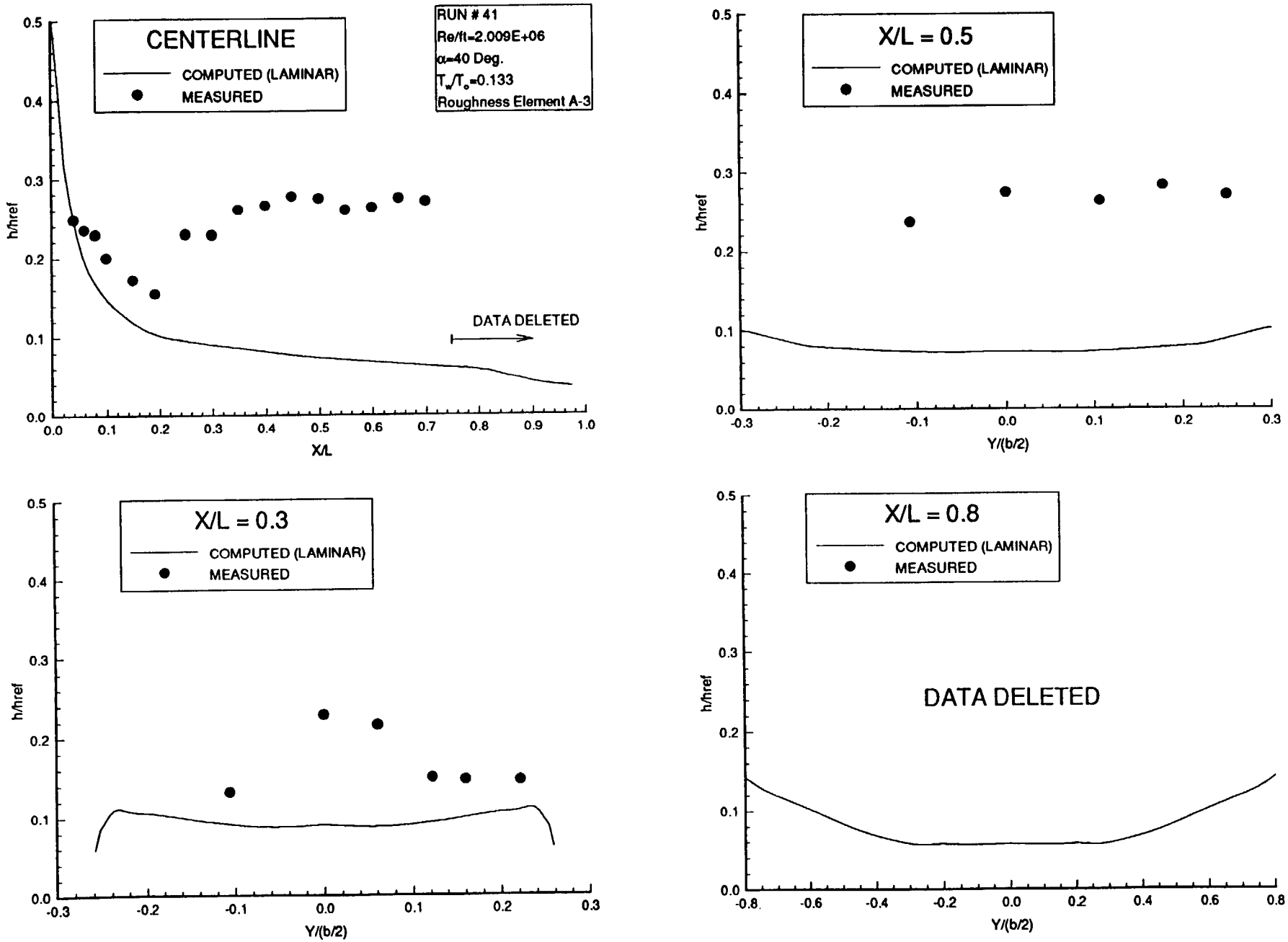


Figure B-36. - Heat Transfer Coefficient Data.

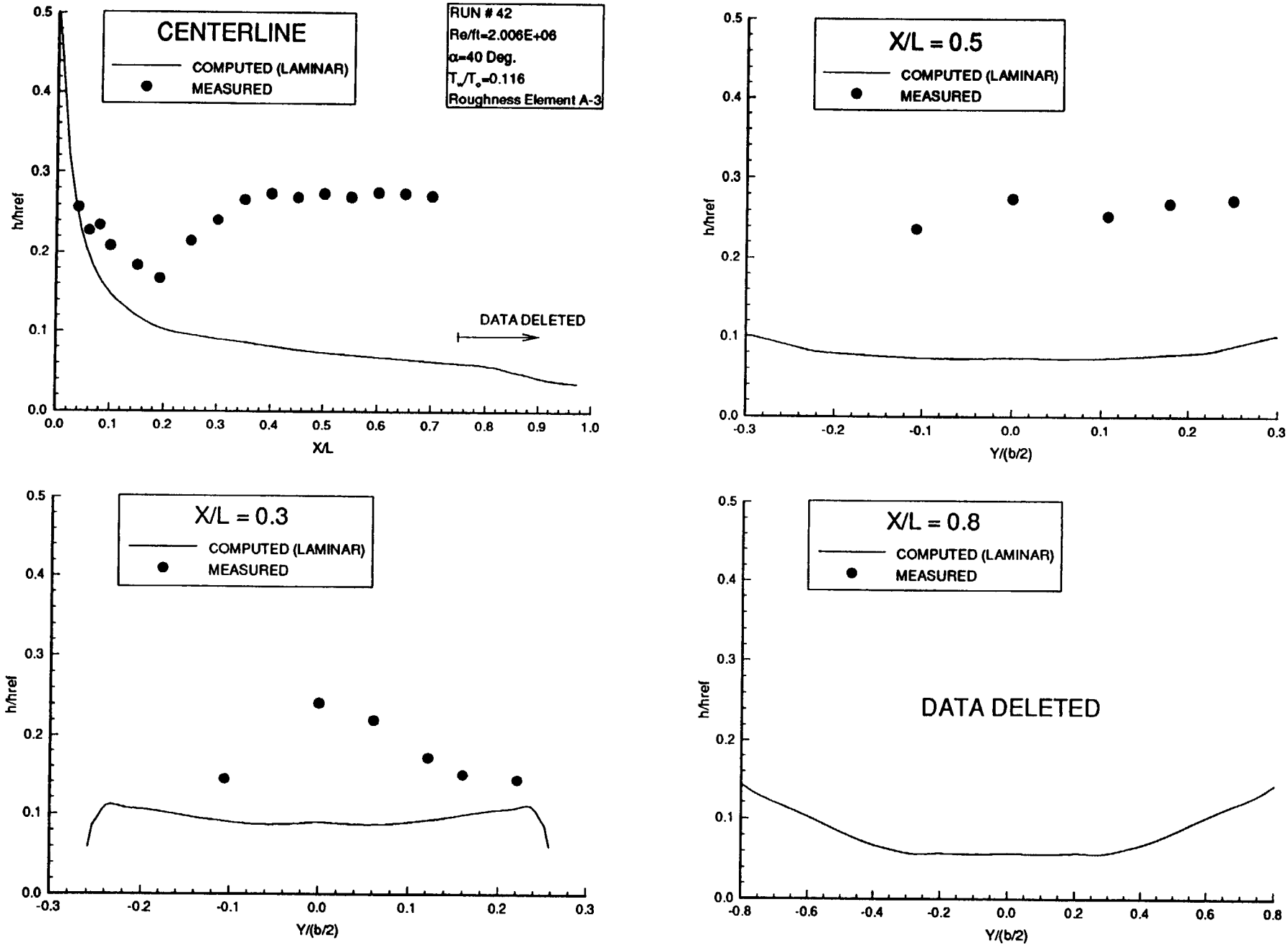


Figure B-37. - Heat Transfer Coefficient Data.

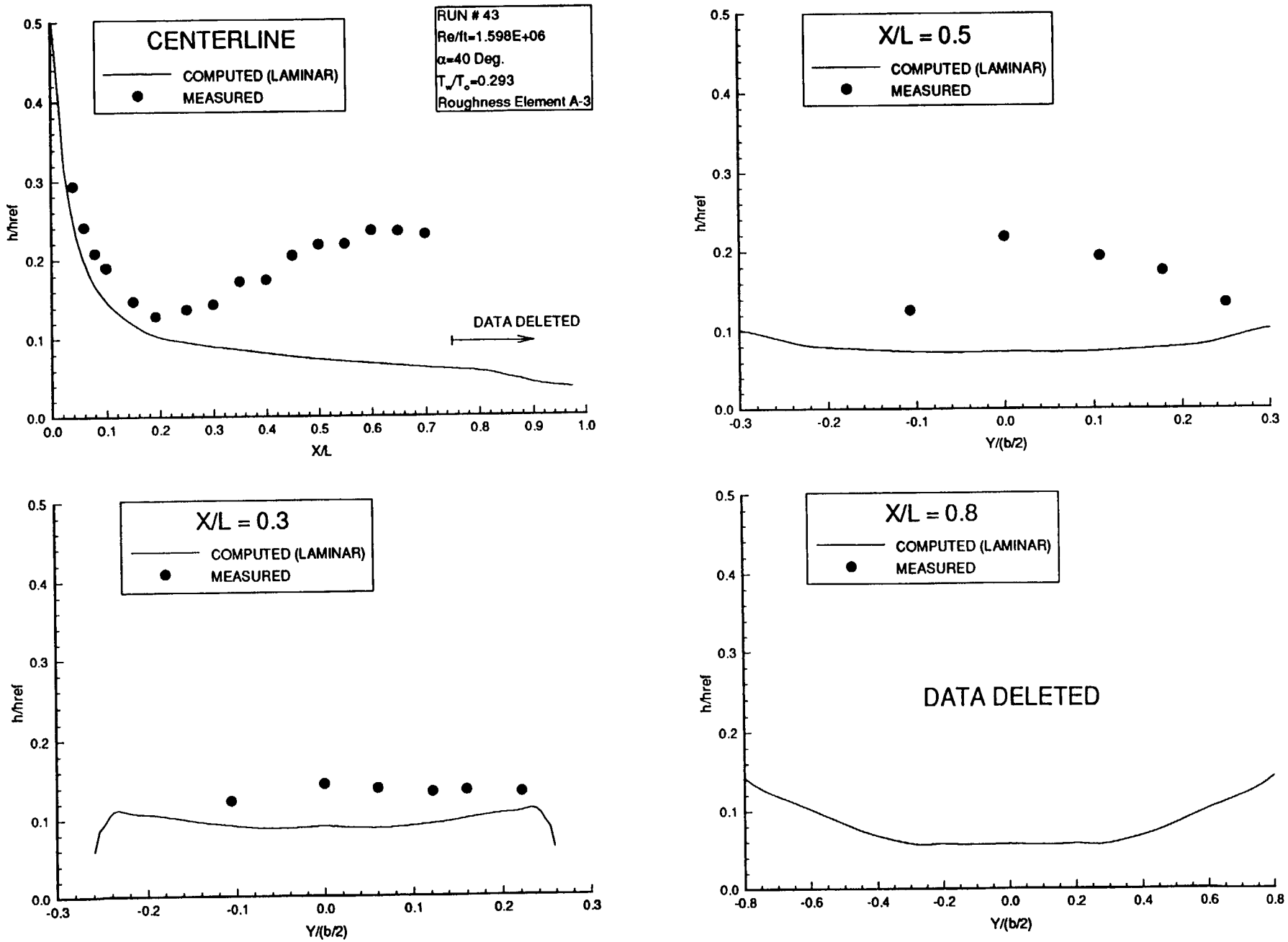


Figure B-38. - Heat Transfer Coefficient Data

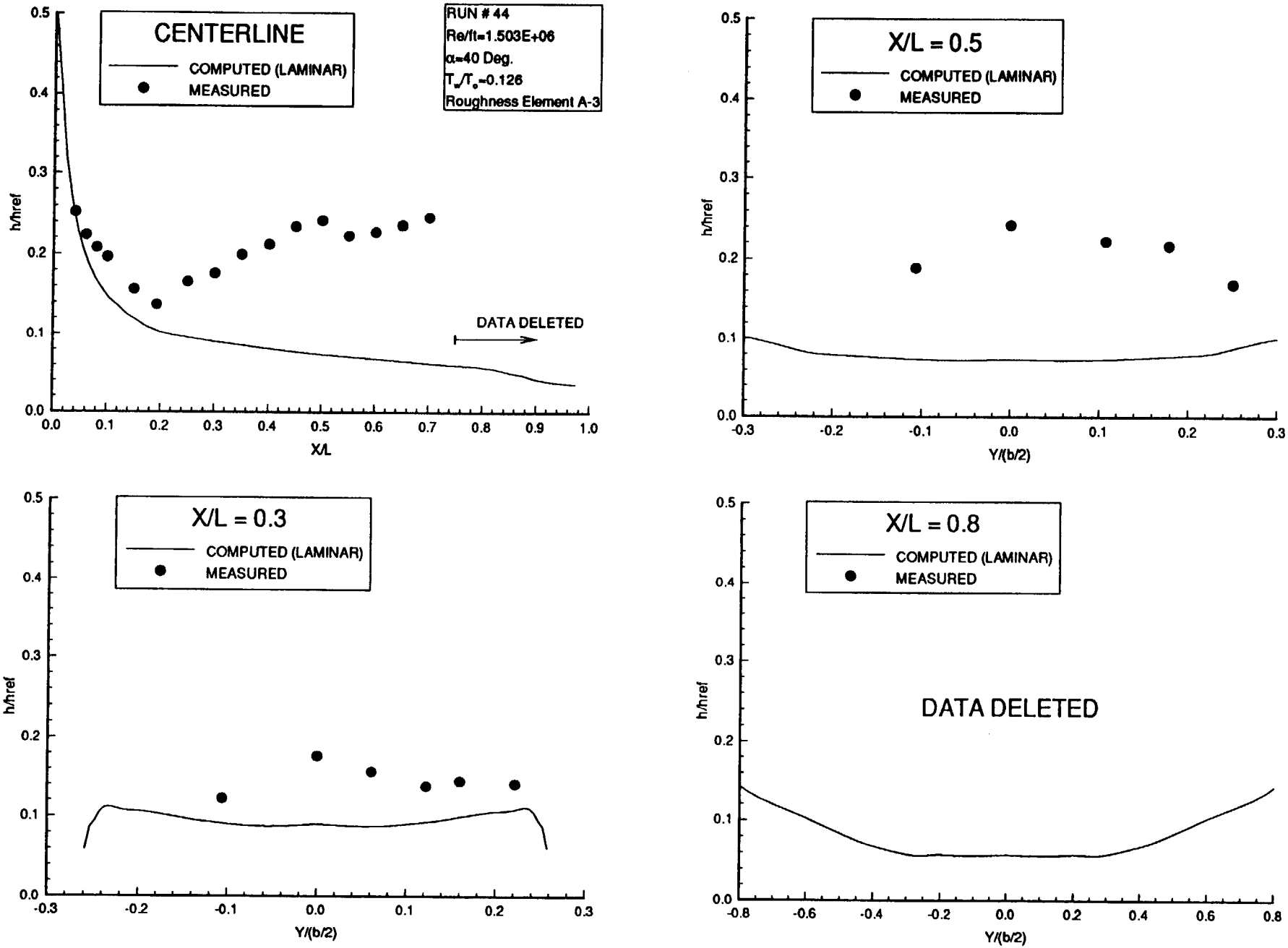


Figure B-39. - Heat Transfer Coefficient Data.

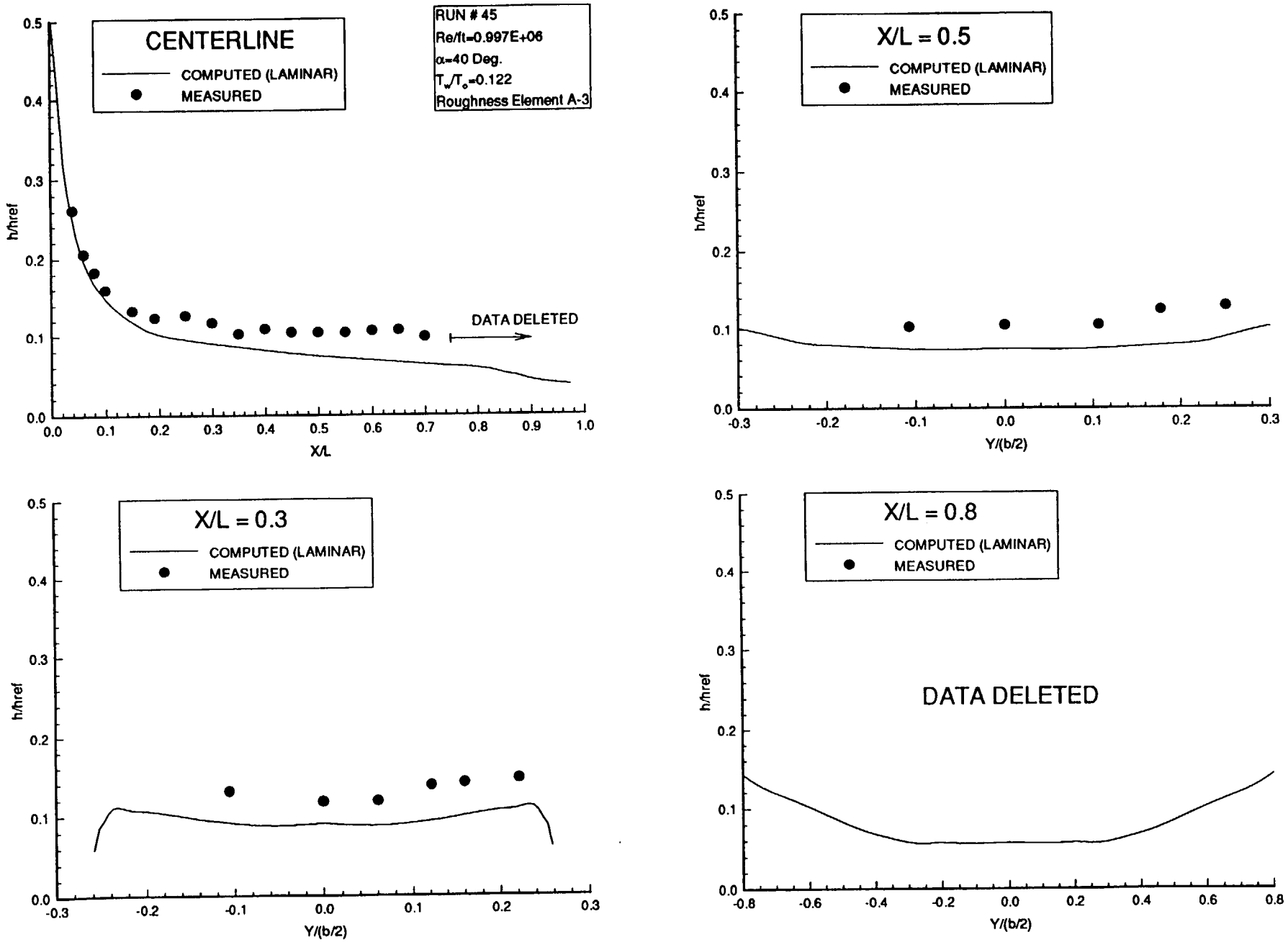


Figure B-40. - Heat Transfer Coefficient Data.

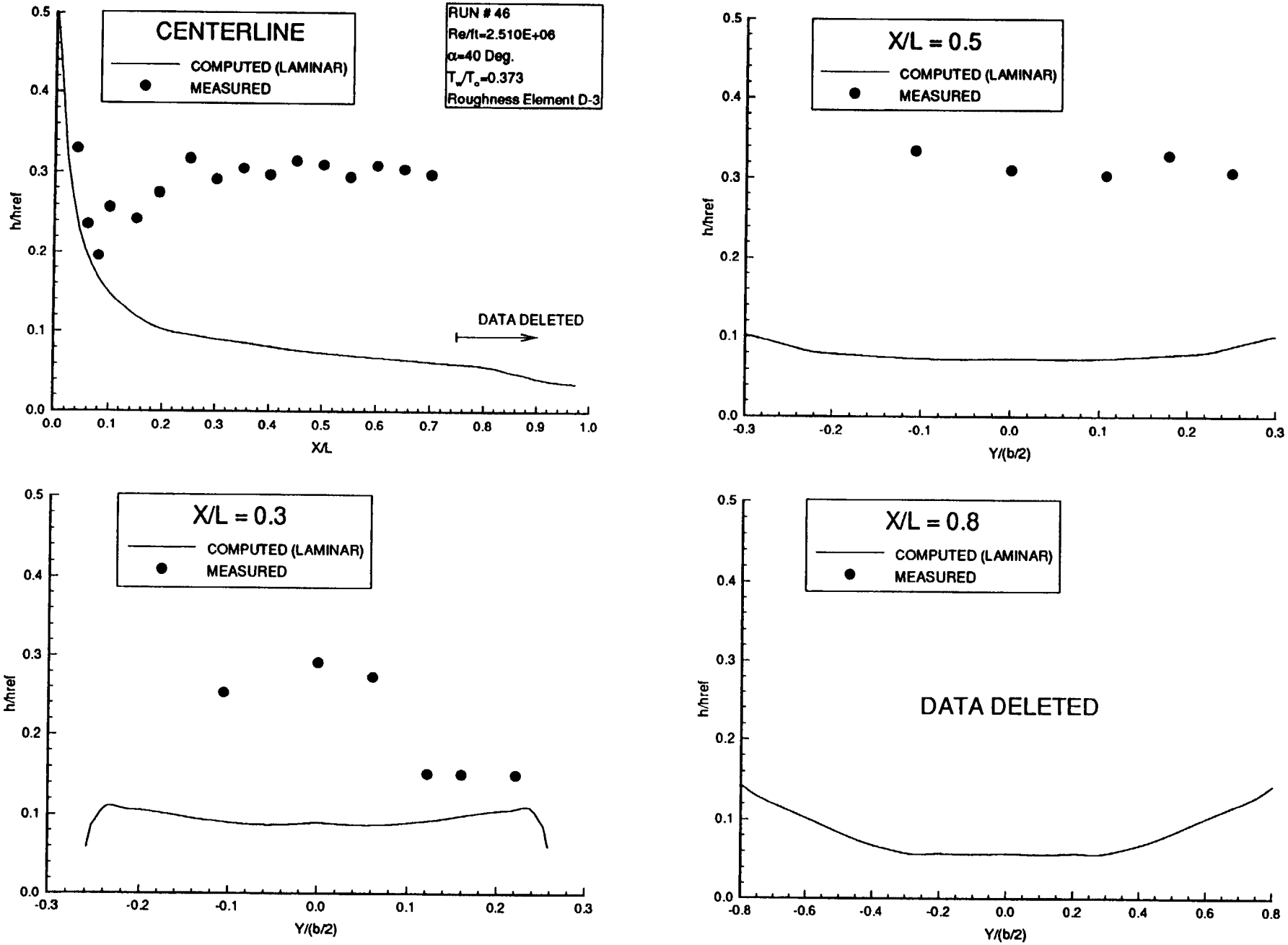


Figure B-41. - Heat Transfer Coefficient Data.

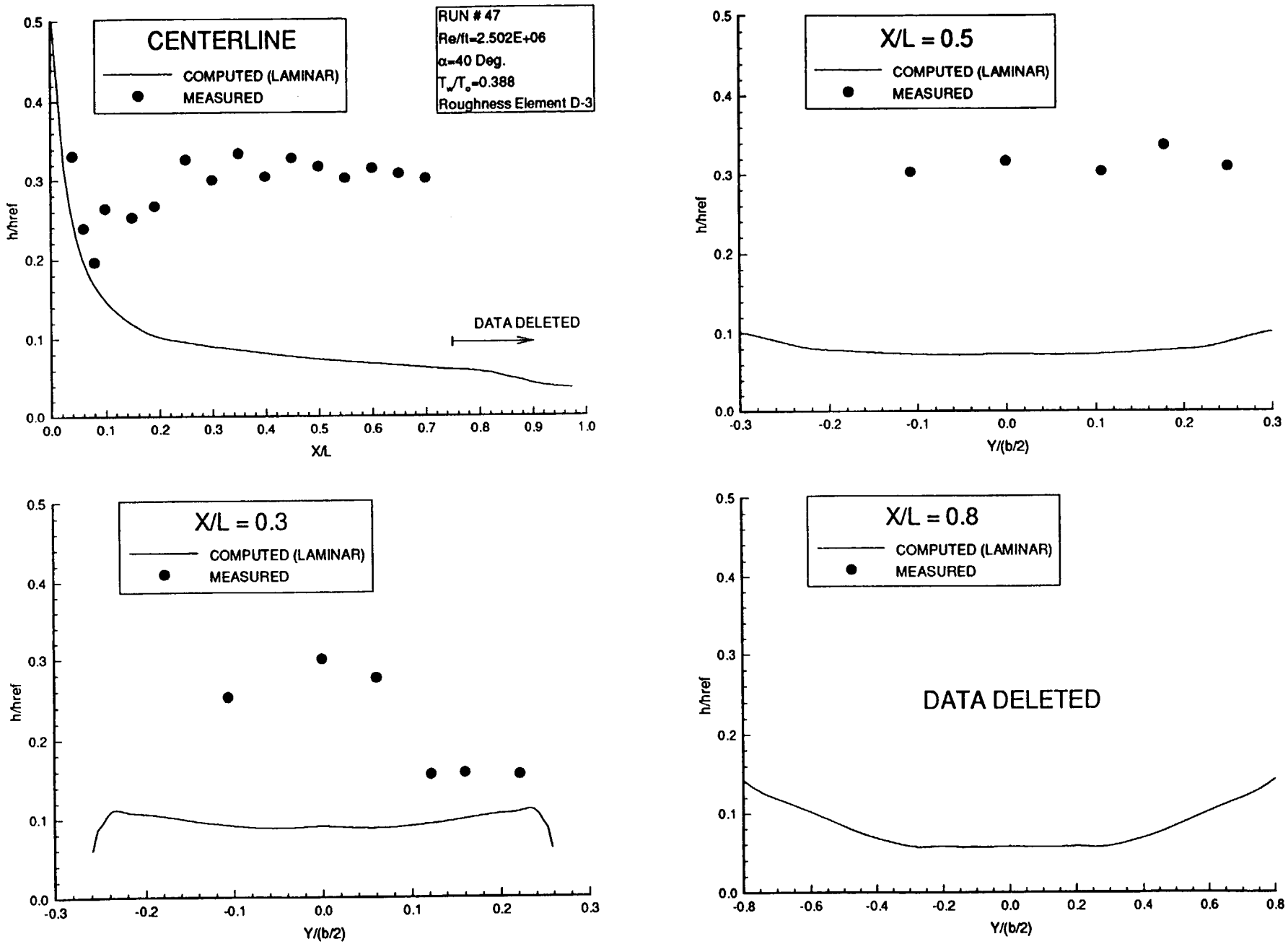


Figure B-42. - Heat Transfer Coefficient Data.

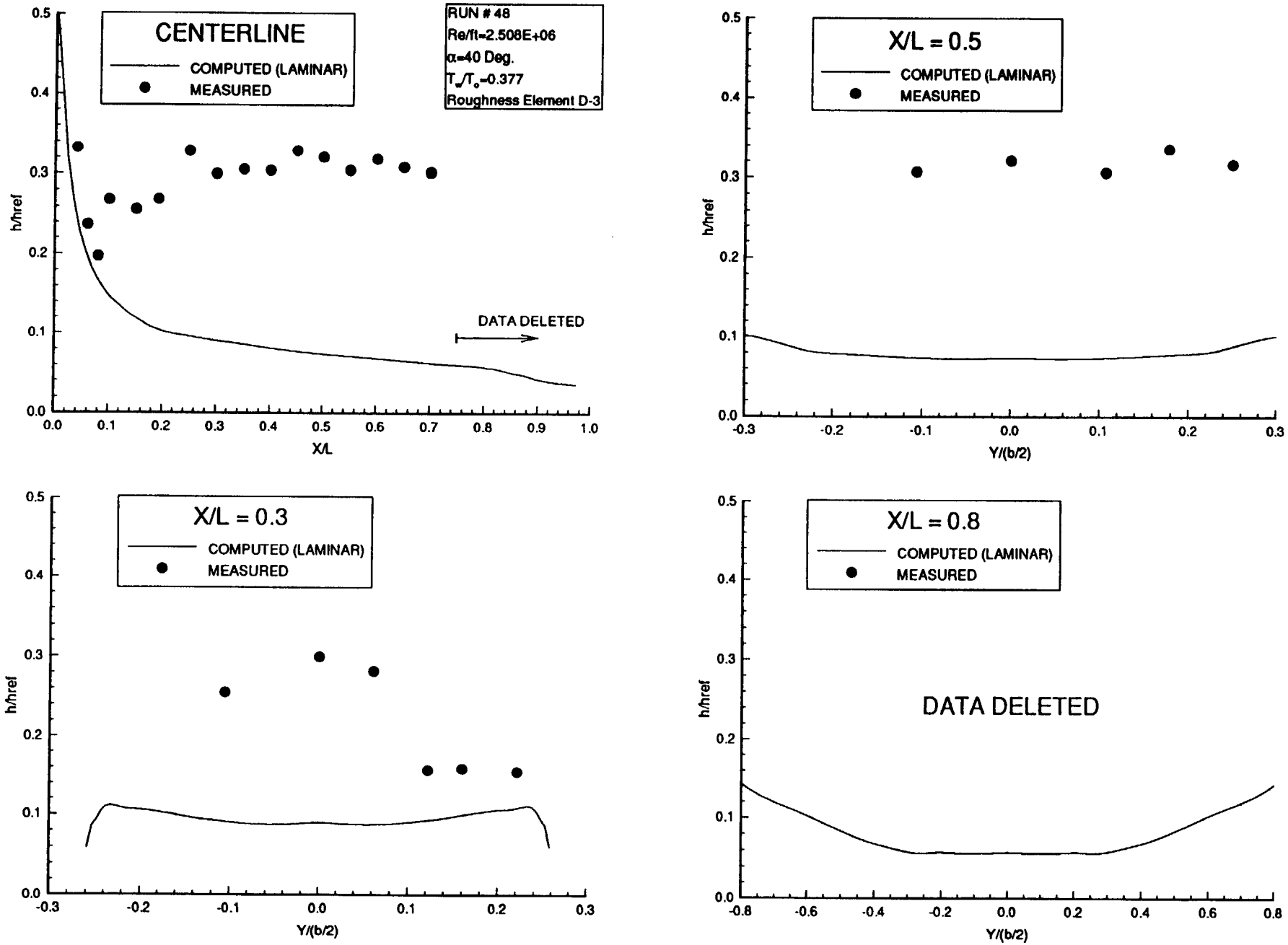


Figure B-43. - Heat Transfer Coefficient Data.

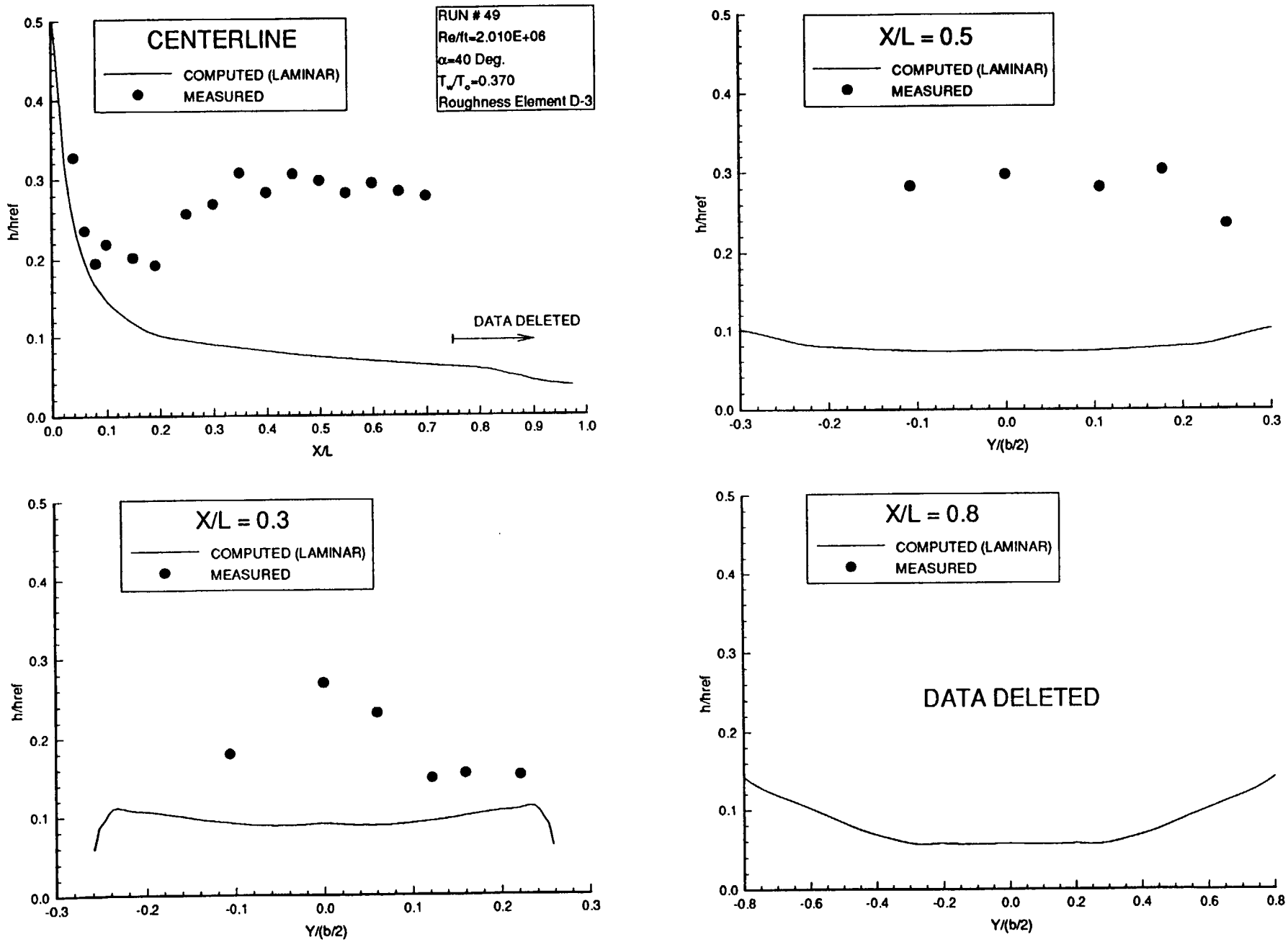


Figure B-44. - Heat Transfer Coefficient Data.

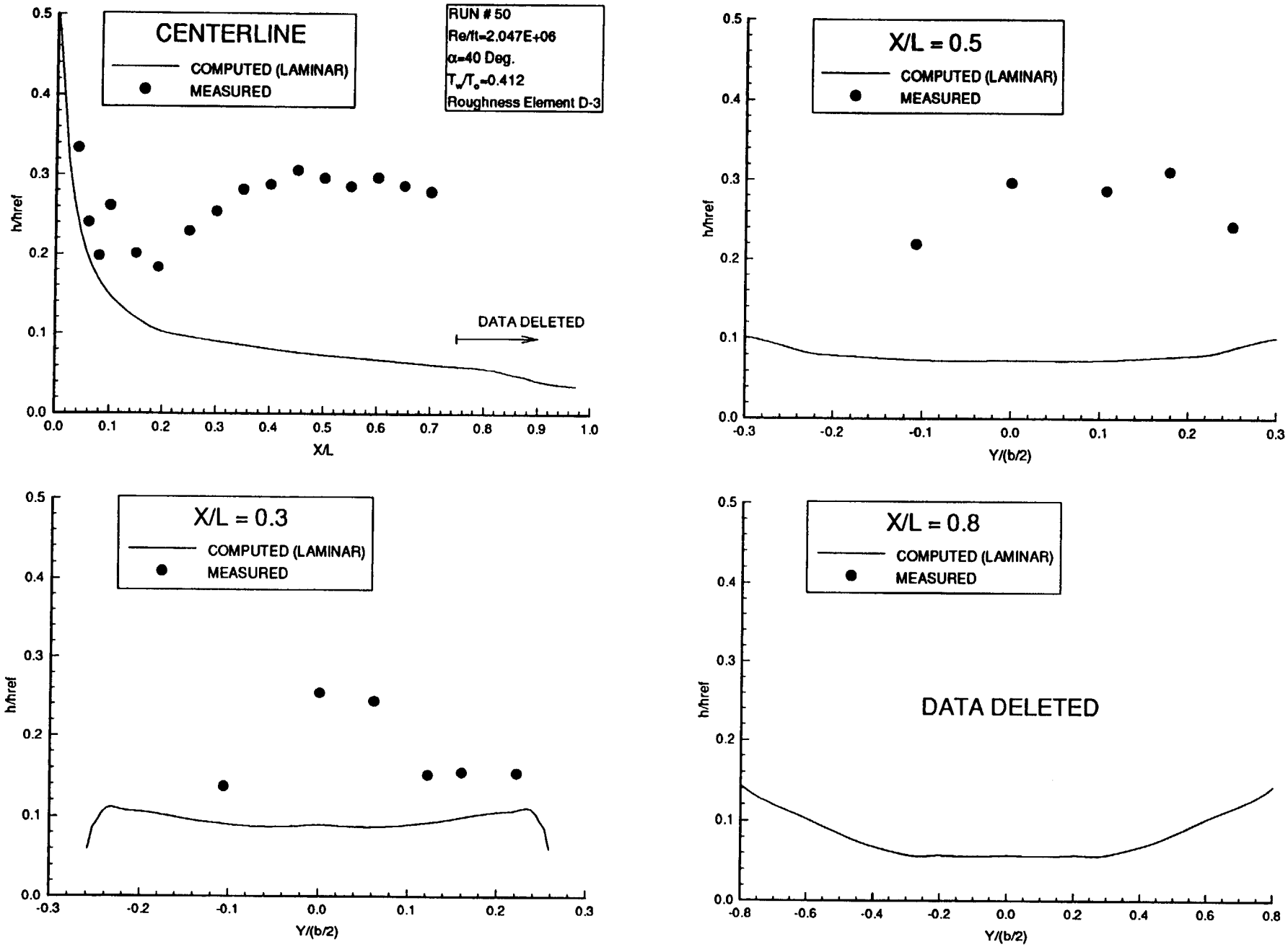


Figure B-45. - Heat Transfer Coefficient Data.

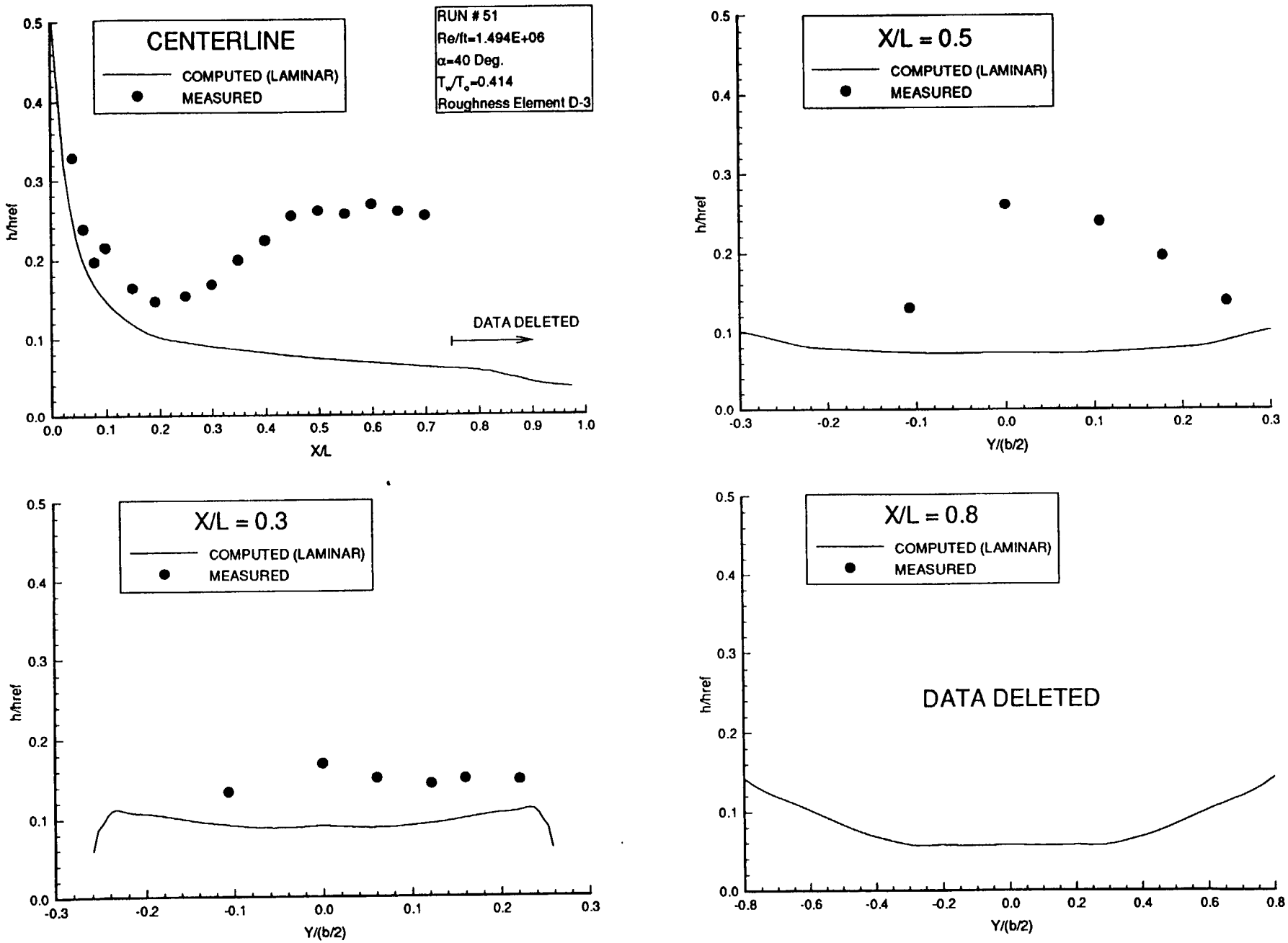


Figure B-46. - Heat Transfer Coefficient Data.

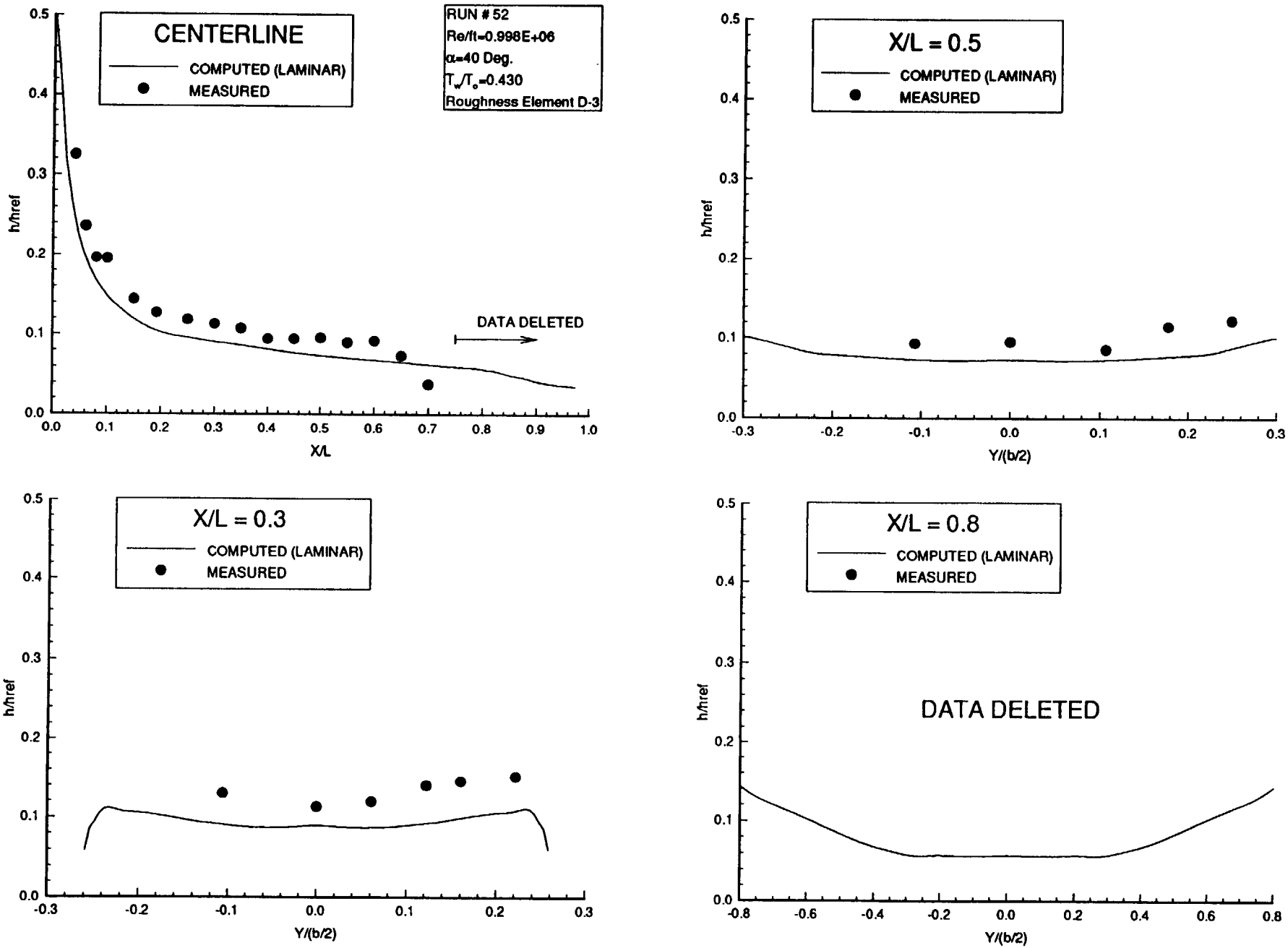


Figure B-47. - Heat Transfer Coefficient Data.

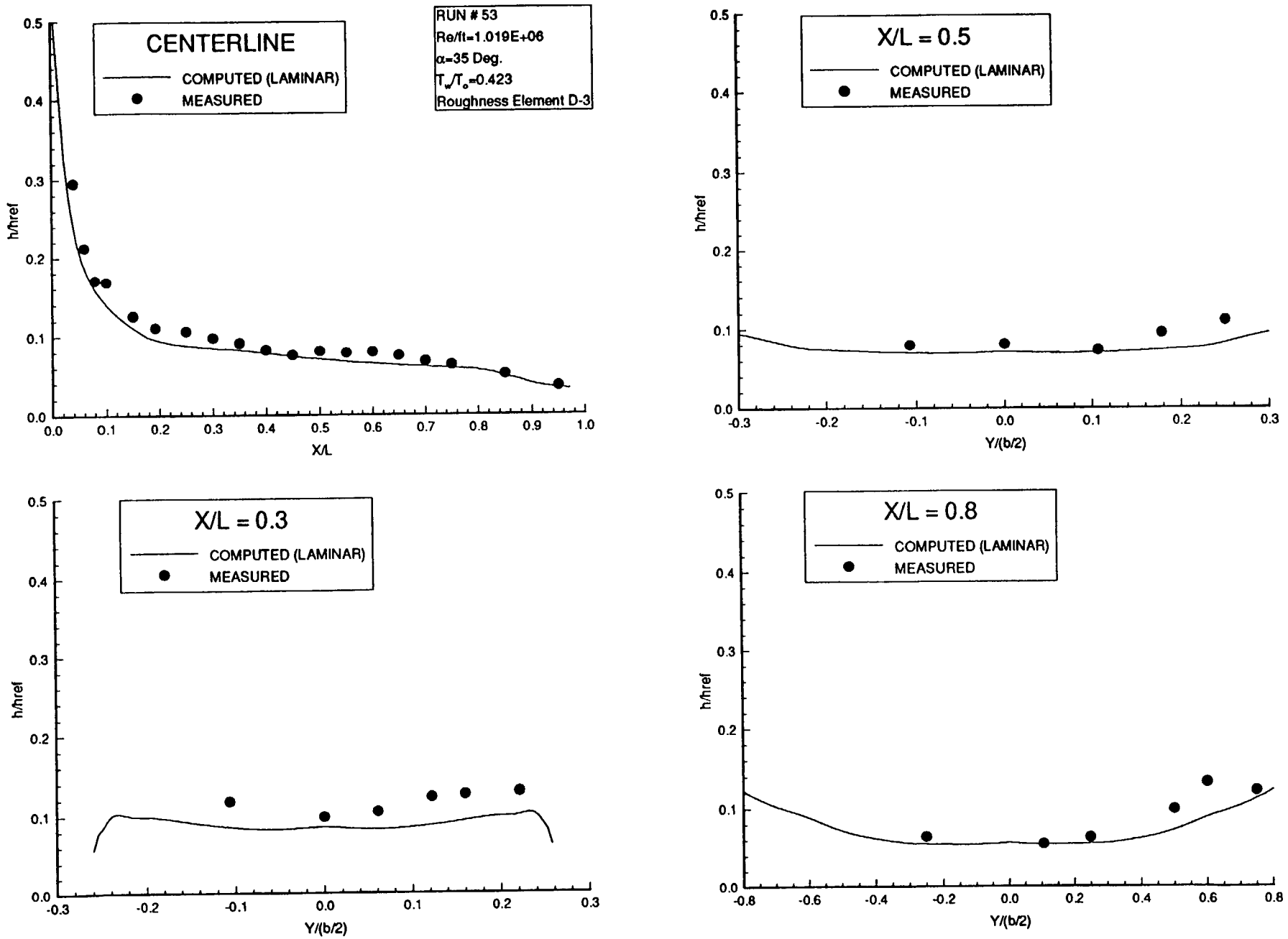


Figure B-48. - Heat Transfer Coefficient Data.

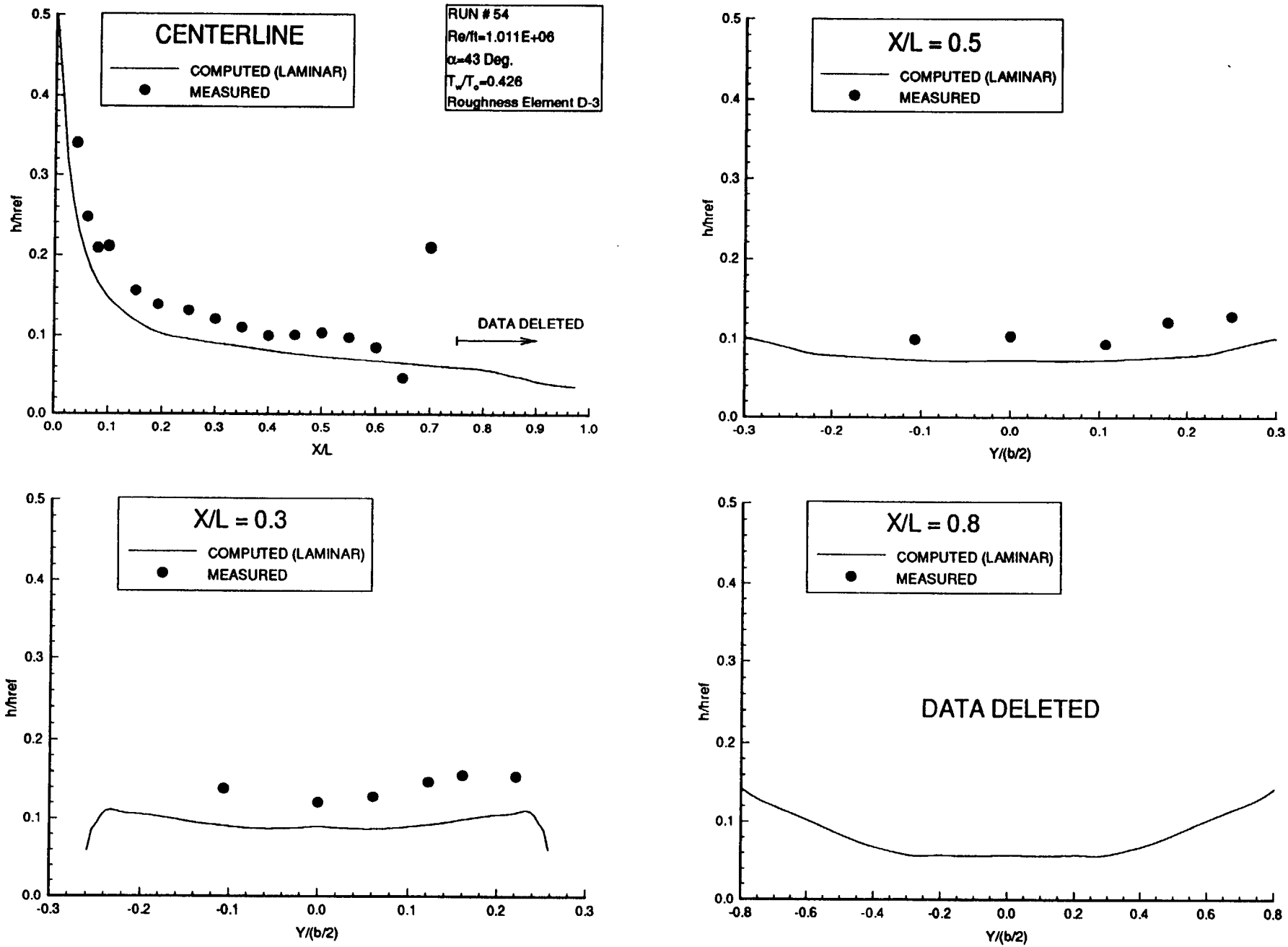


Figure B-49. - Heat Transfer Coefficient Data.

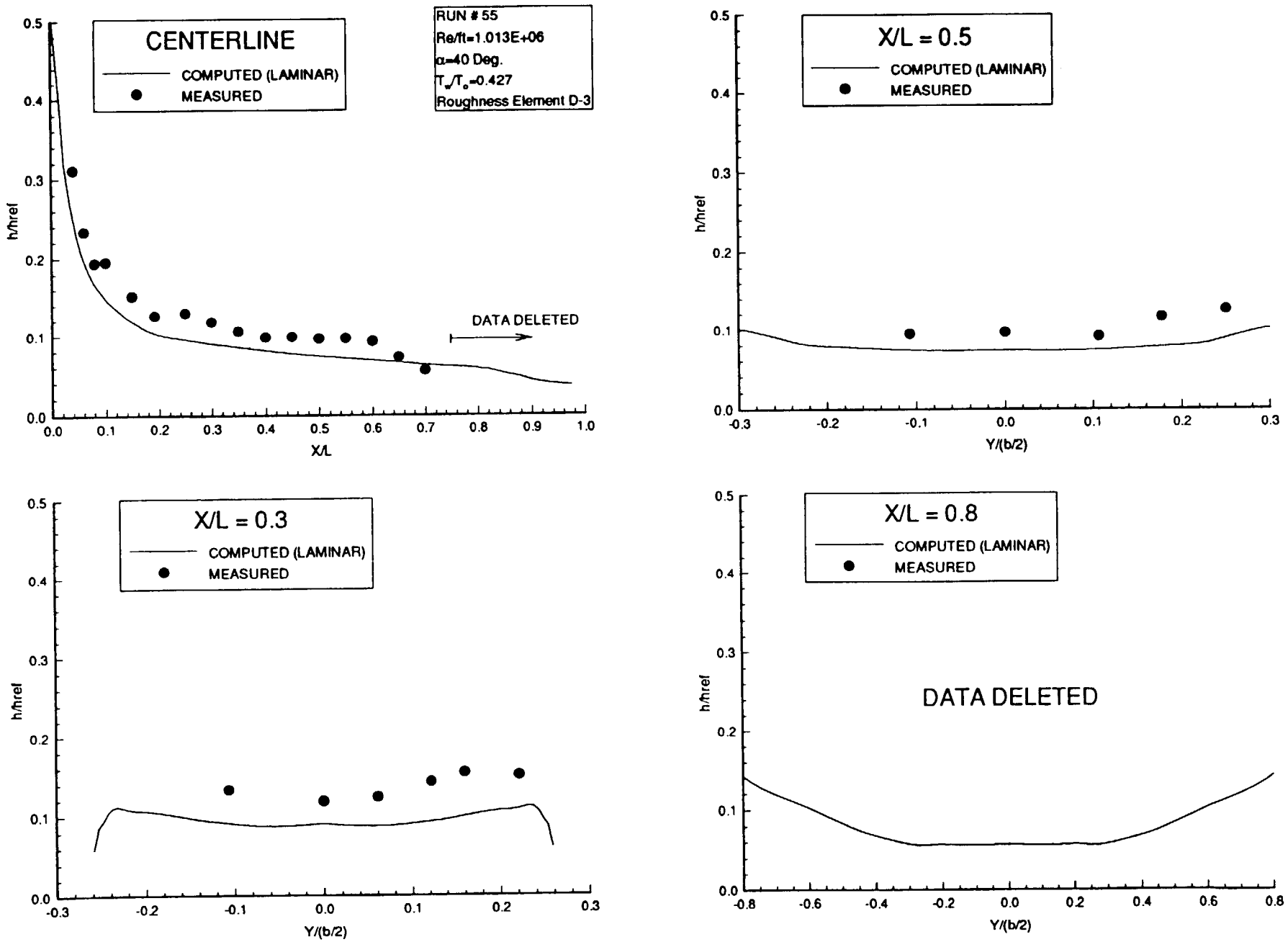


Figure B-50. - Heat Transfer Coefficient Data.

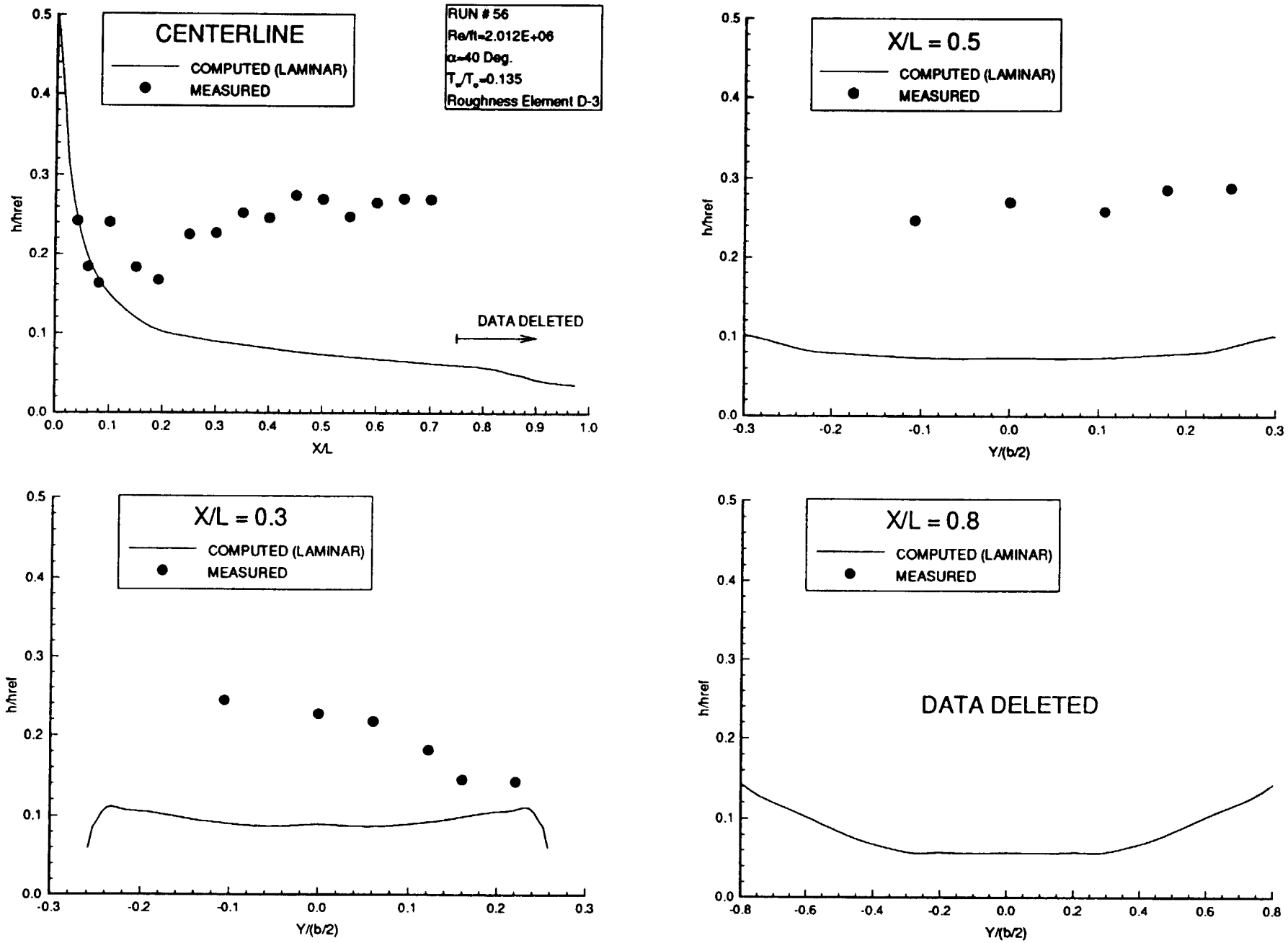


Figure B-51. - Heat Transfer Coefficient Data.

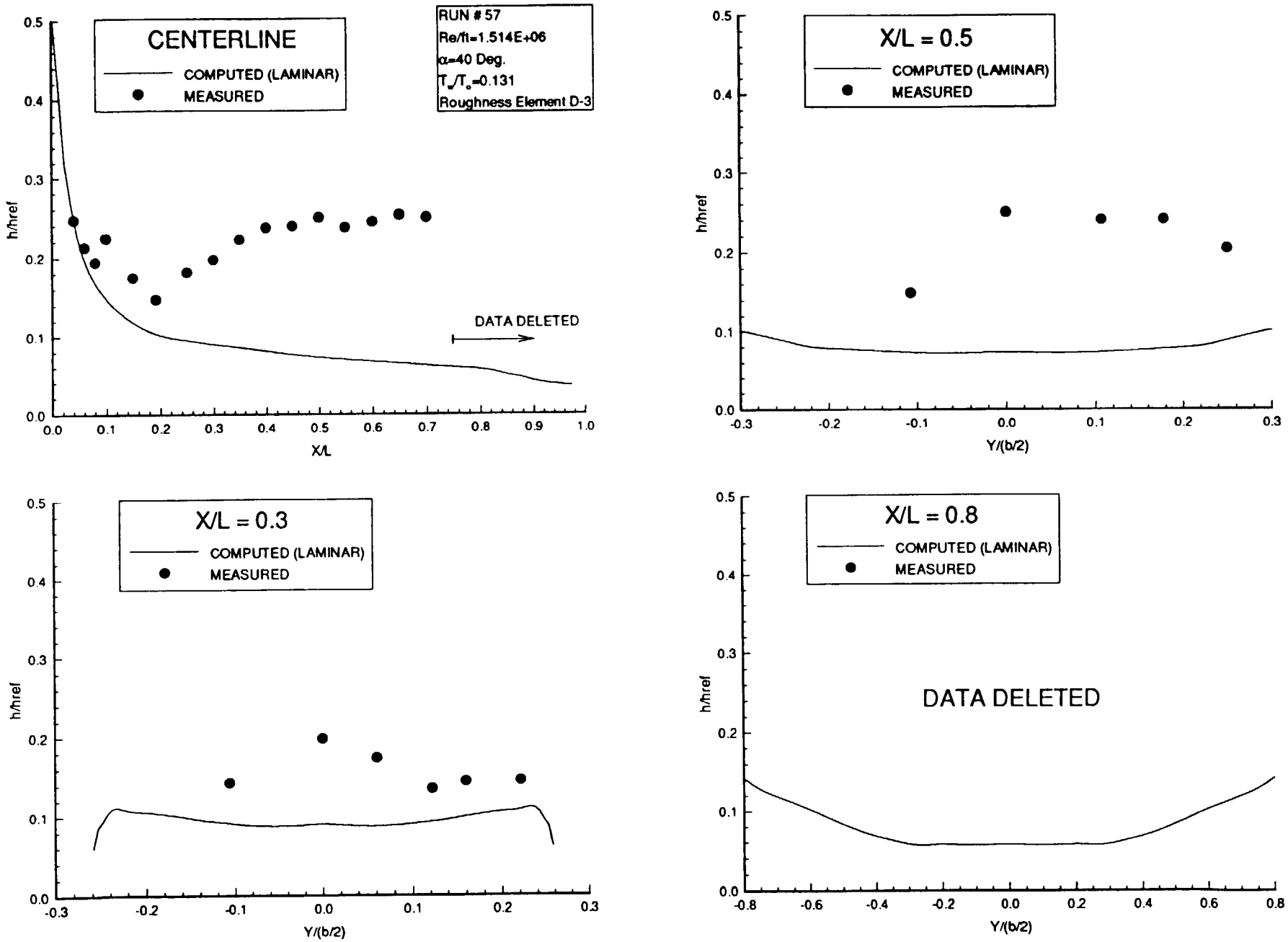


Figure B-52. - Heat Transfer Coefficient Data.

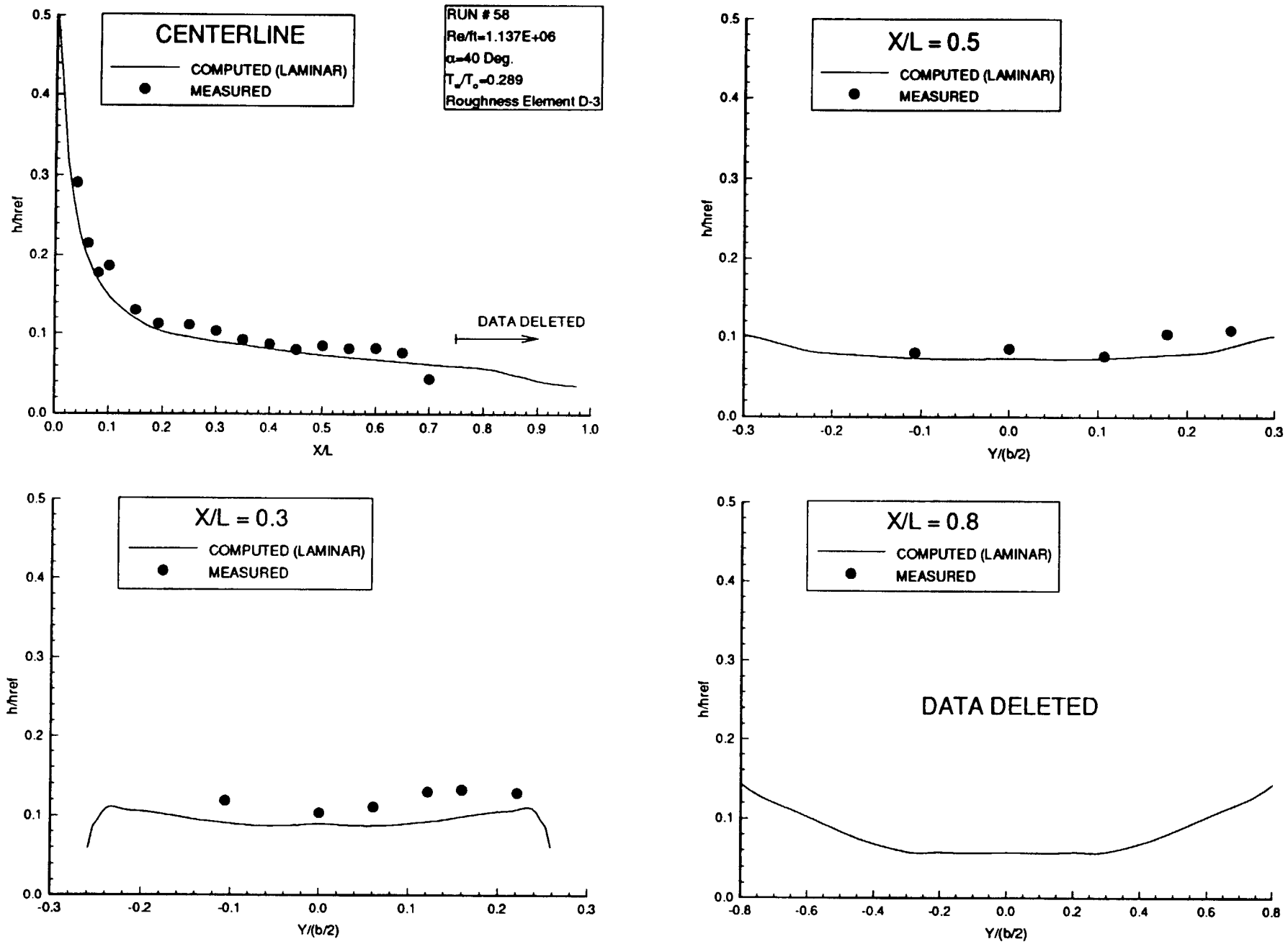


Figure B-53. - Heat Transfer Coefficient Data.

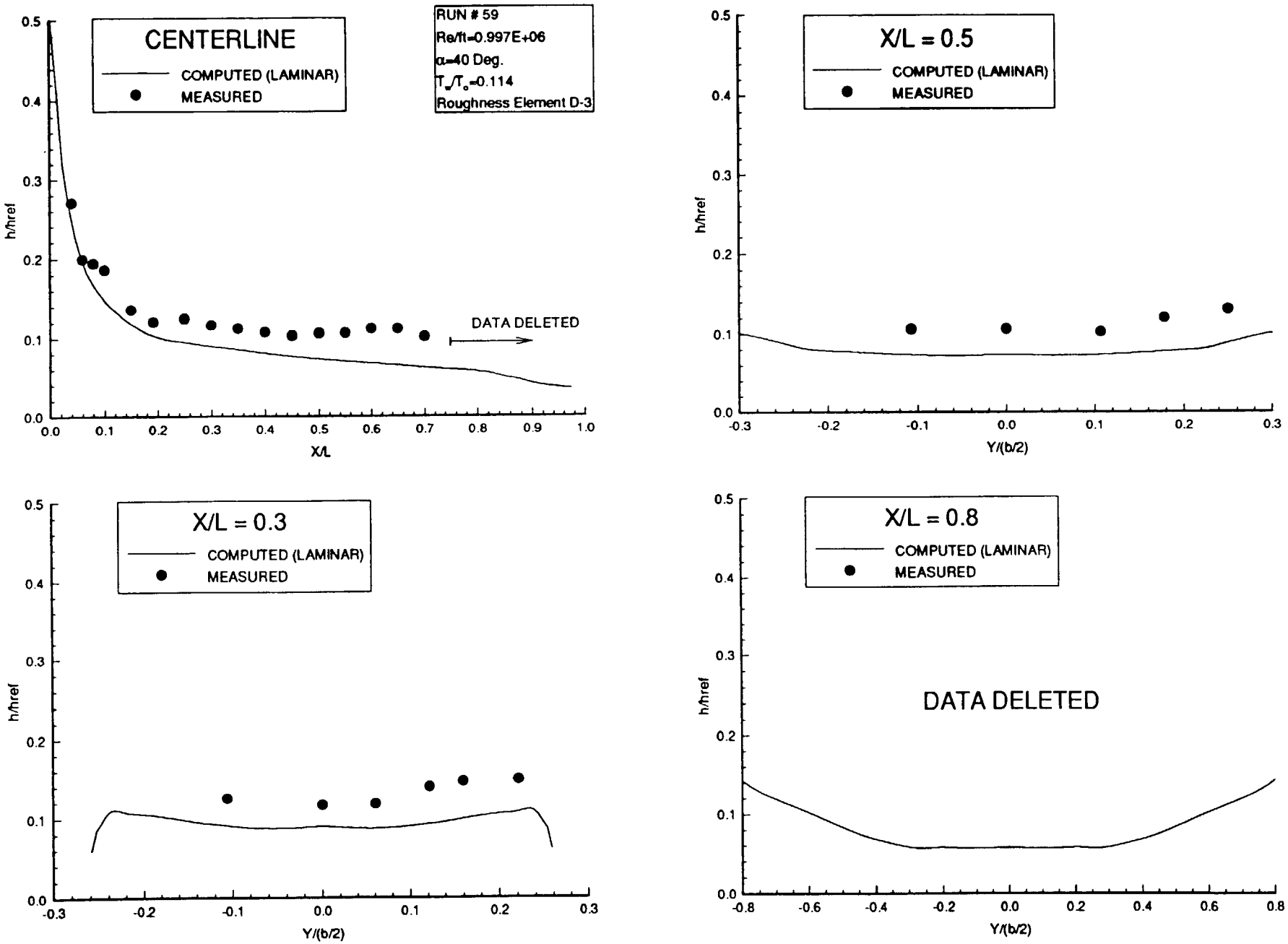


Figure B-54. - Heat Transfer Coefficient Data.

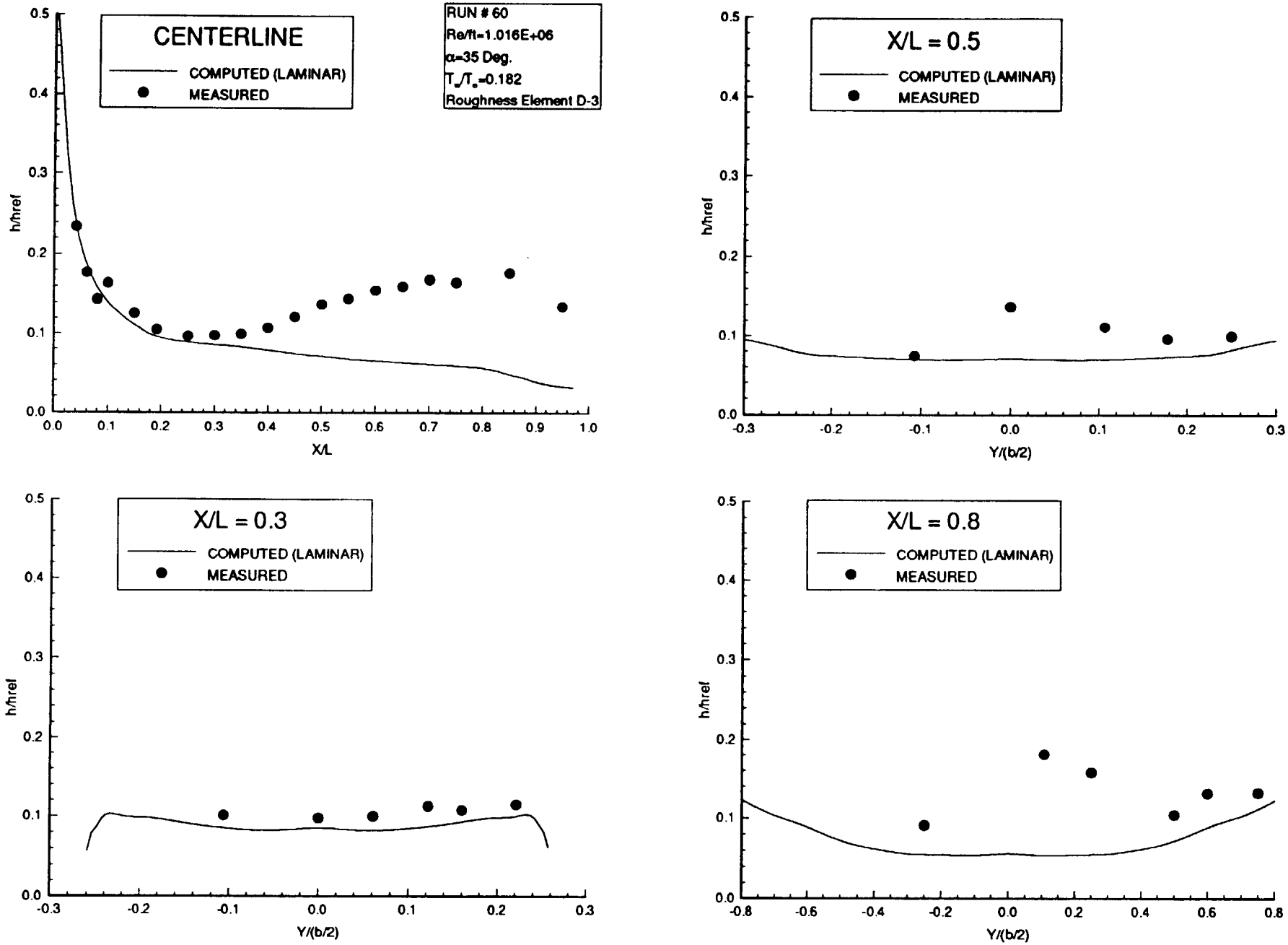


Figure B-55. - Heat Transfer Coefficient Data.

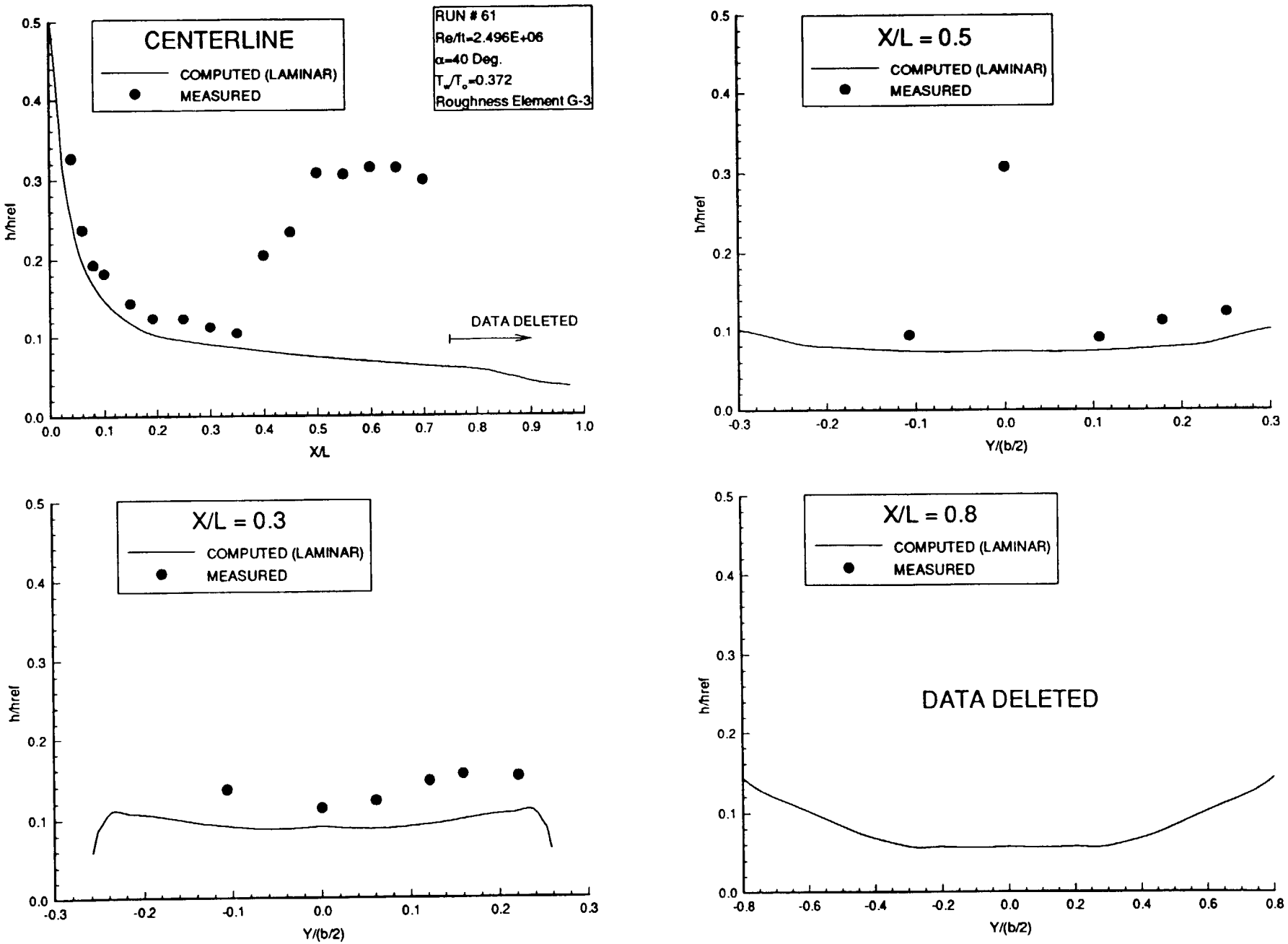


Figure B-56. - Heat Transfer Coefficient Data.

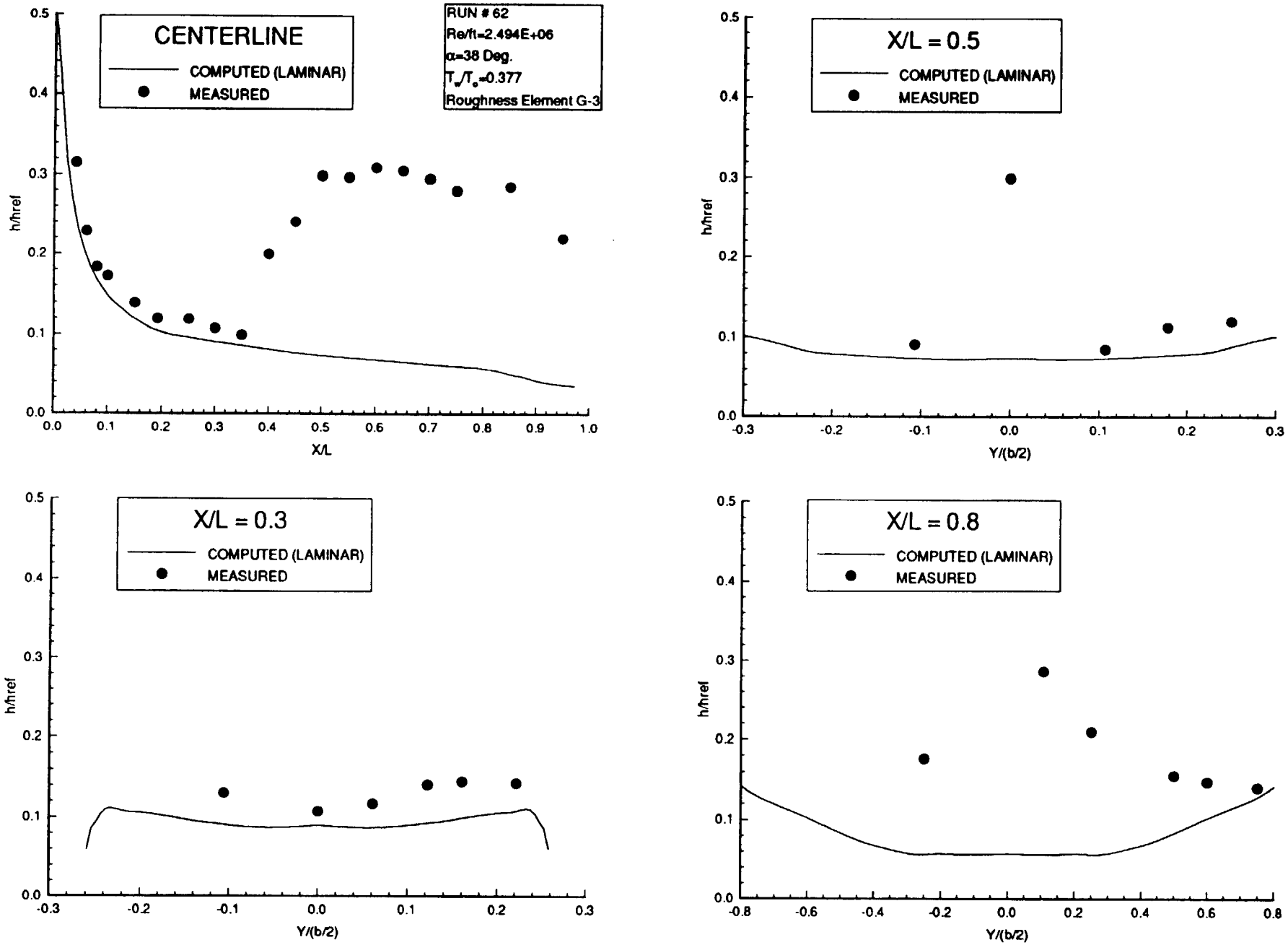


Figure B-57. - Heat Transfer Coefficient Data.

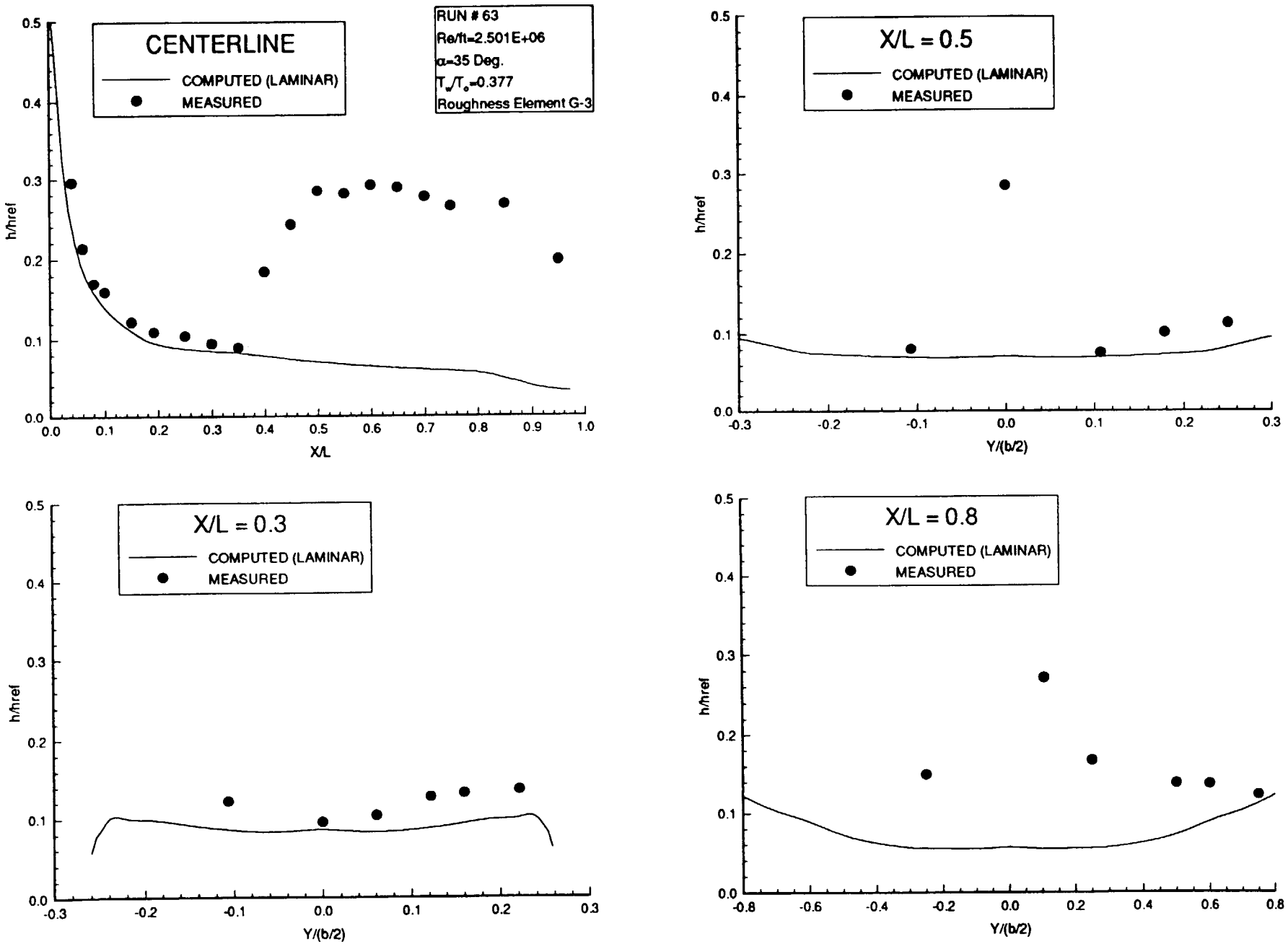


Figure B-58. - Heat Transfer Coefficient Data.

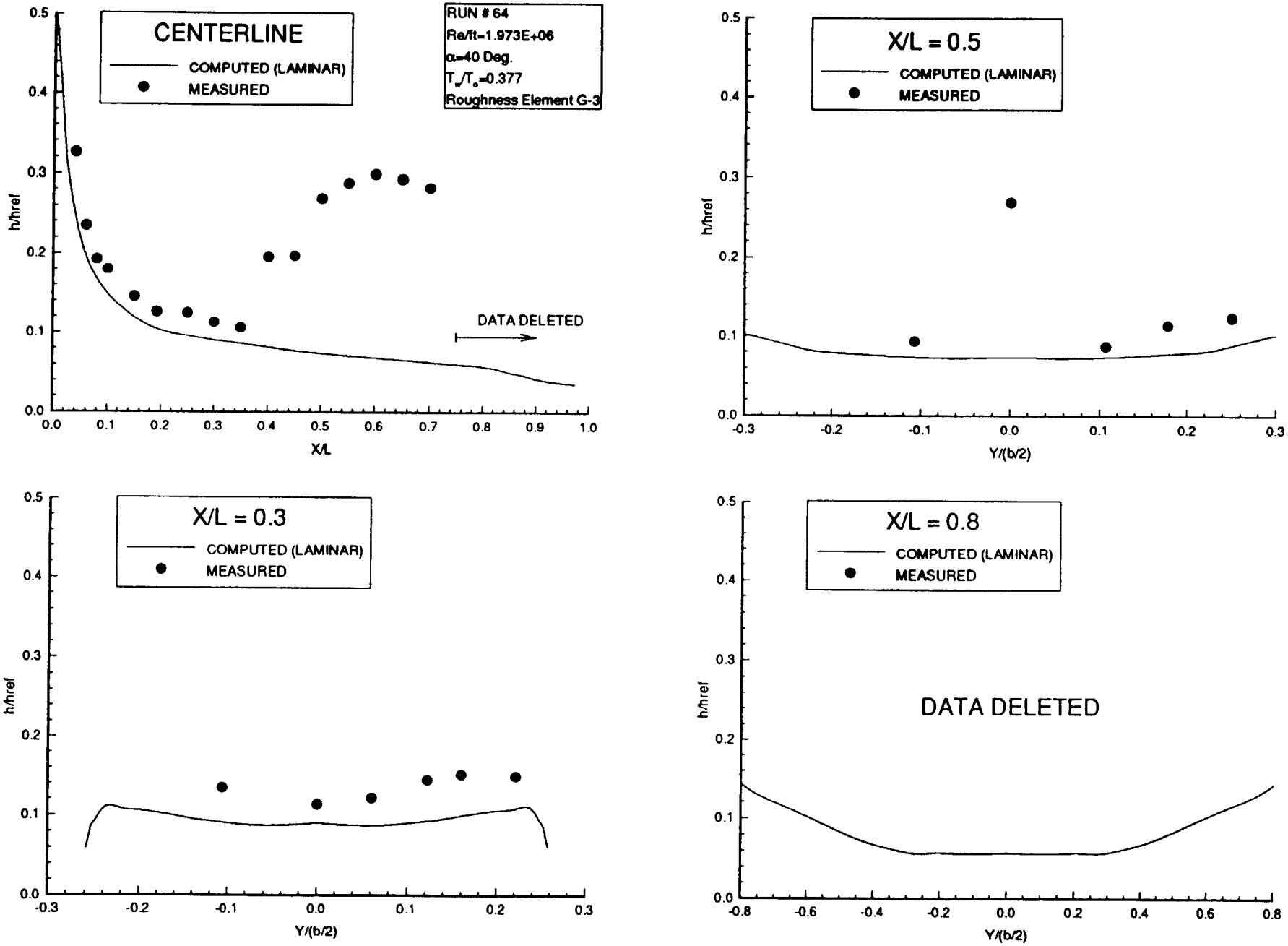


Figure B-59. - Heat Transfer Coefficient Data.

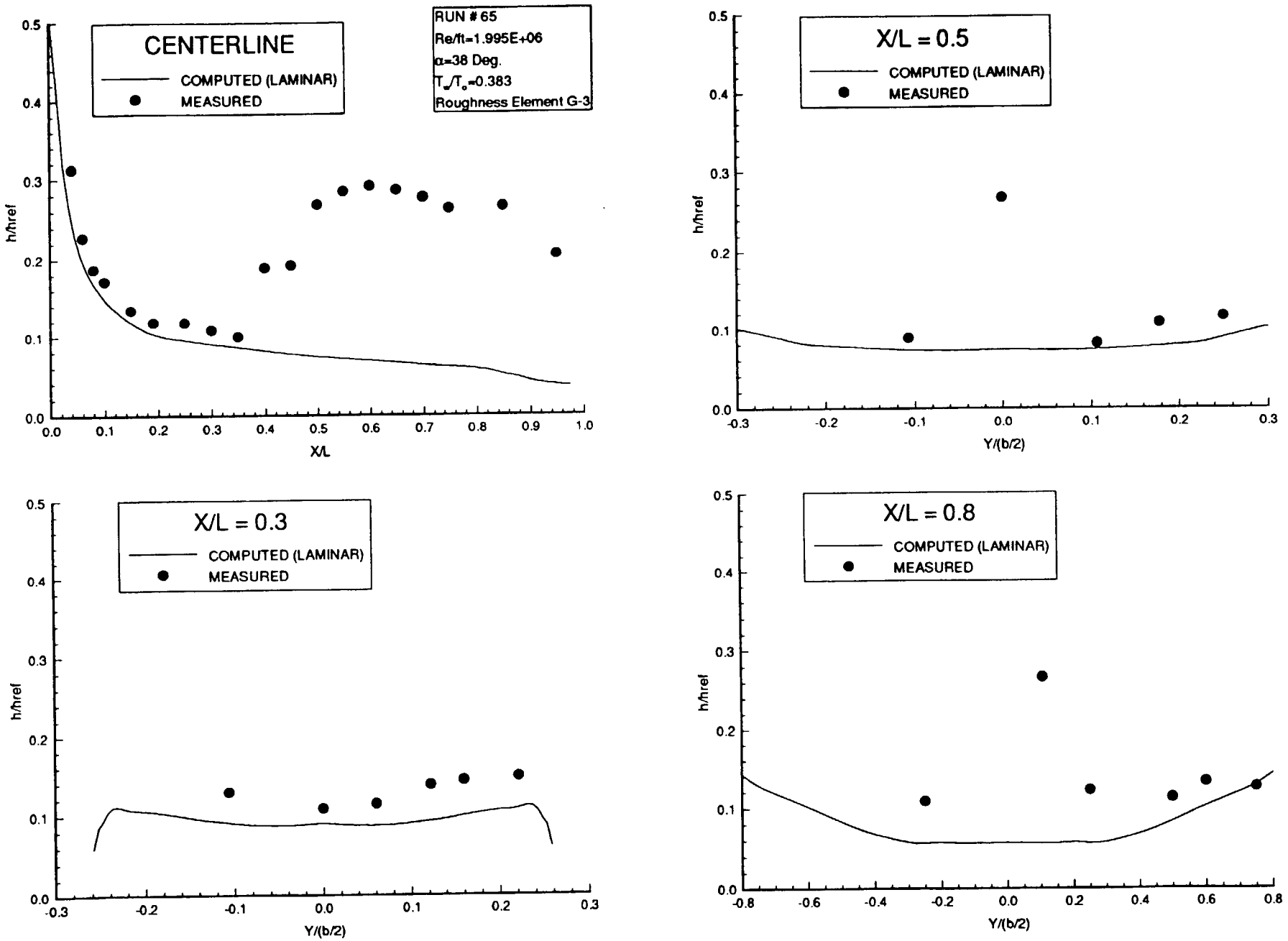


Figure B-60. - Heat Transfer Coefficient Data.

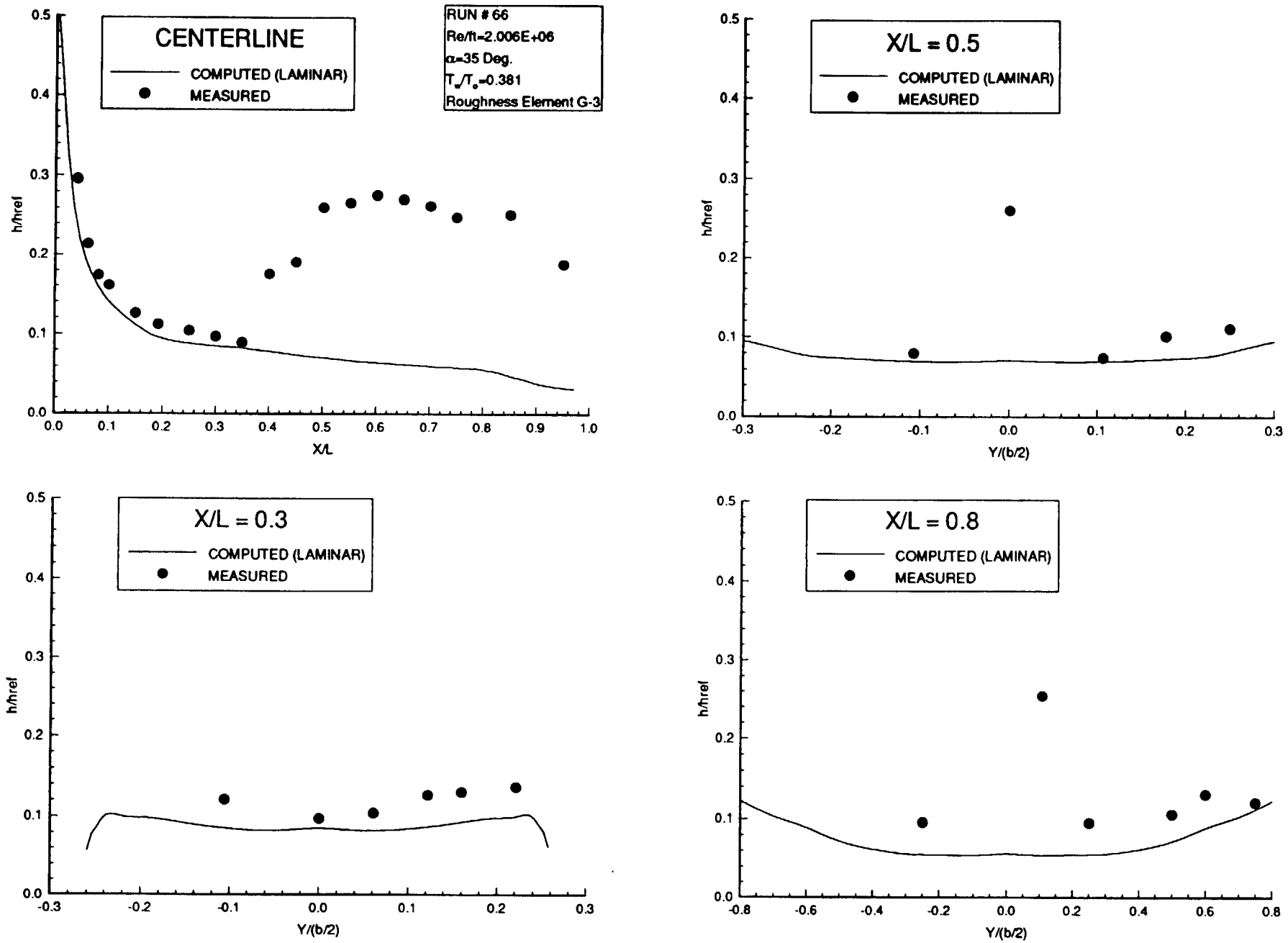


Figure B-61. - Heat Transfer Coefficient Data.

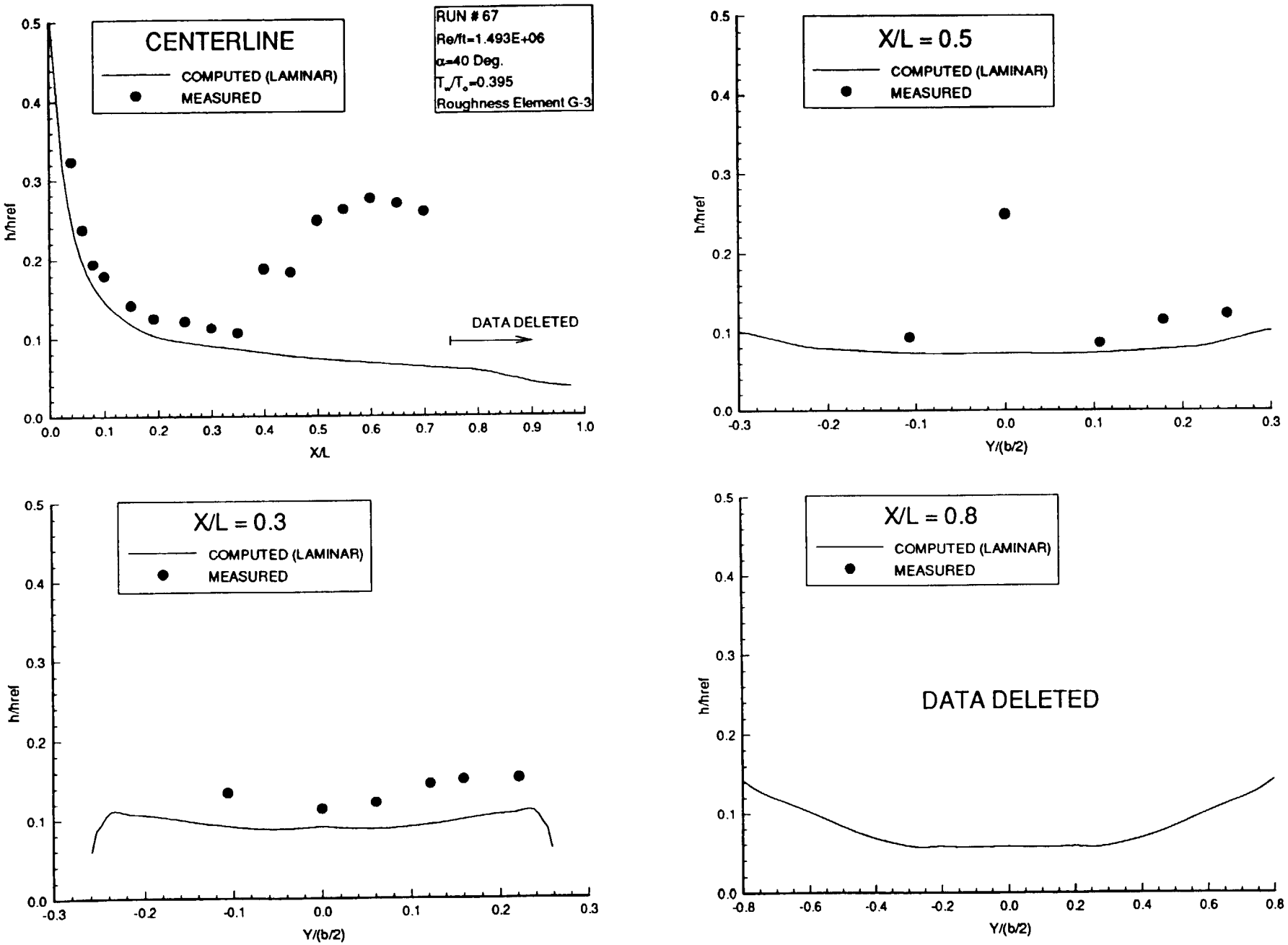


Figure B-62. - Heat Transfer Coefficient Data.

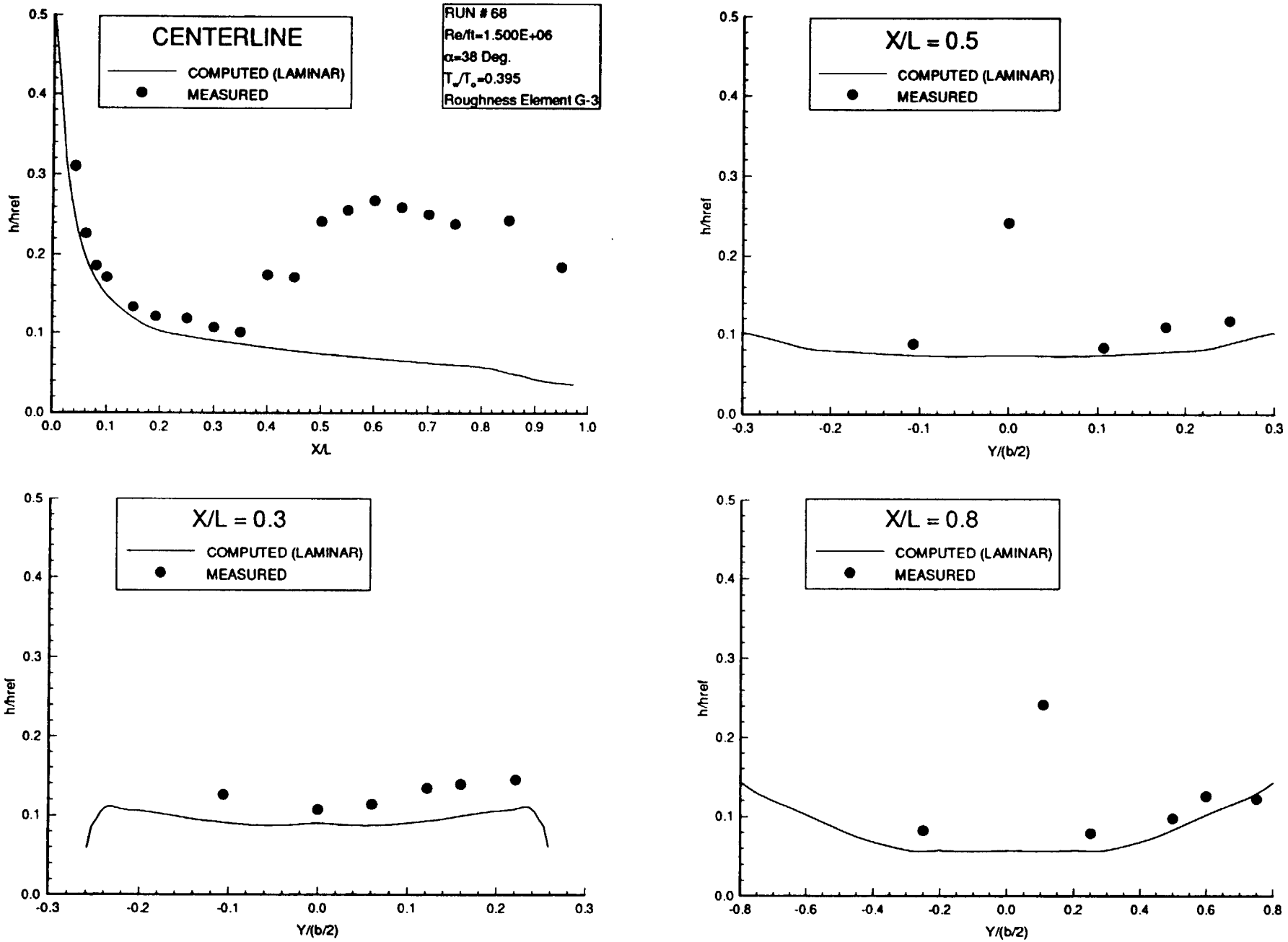


Figure B-63. - Heat Transfer Coefficient Data.

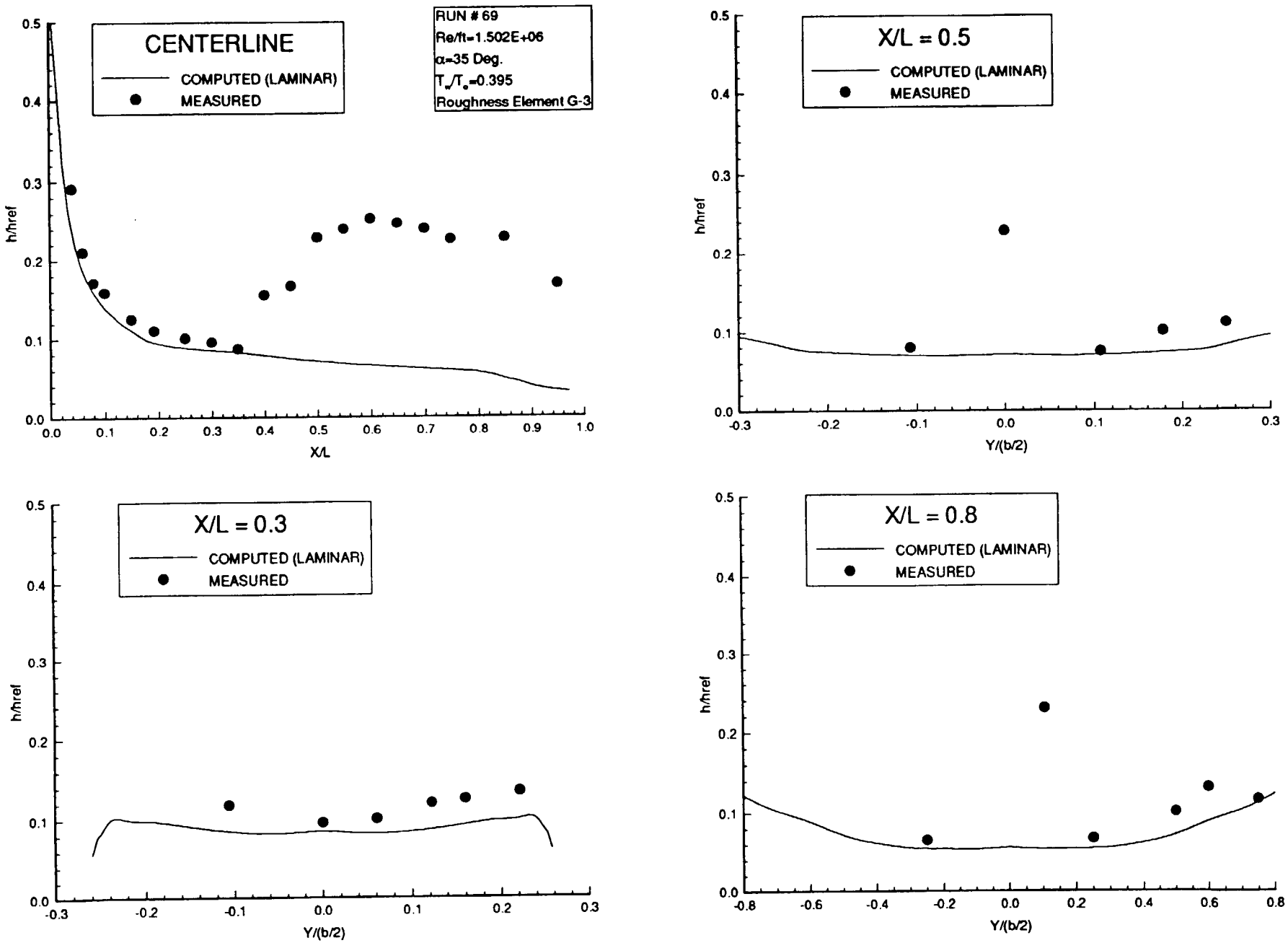


Figure B-64. - Heat Transfer Coefficient Data.

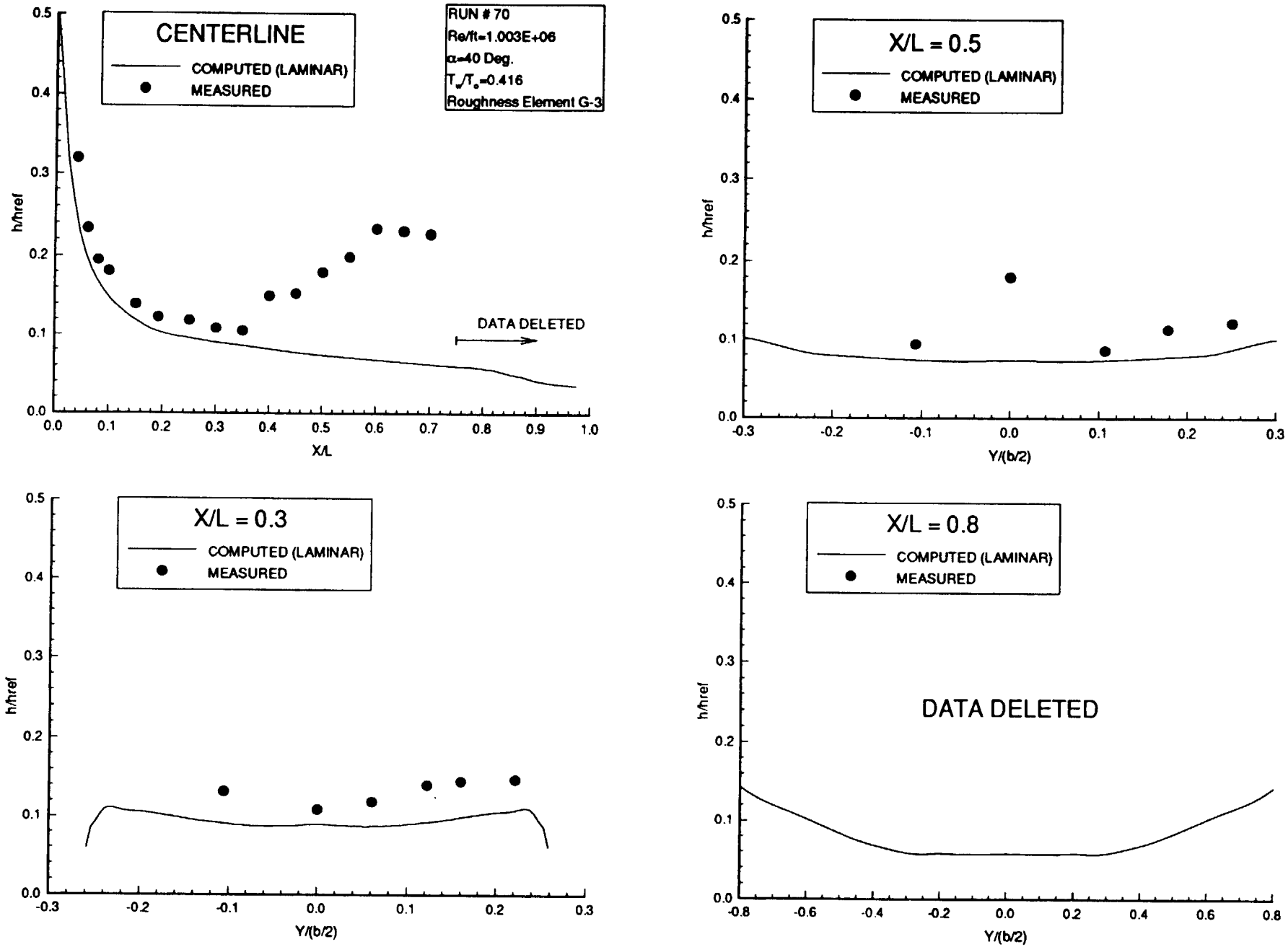


Figure B-65. - Heat Transfer Coefficient Data.

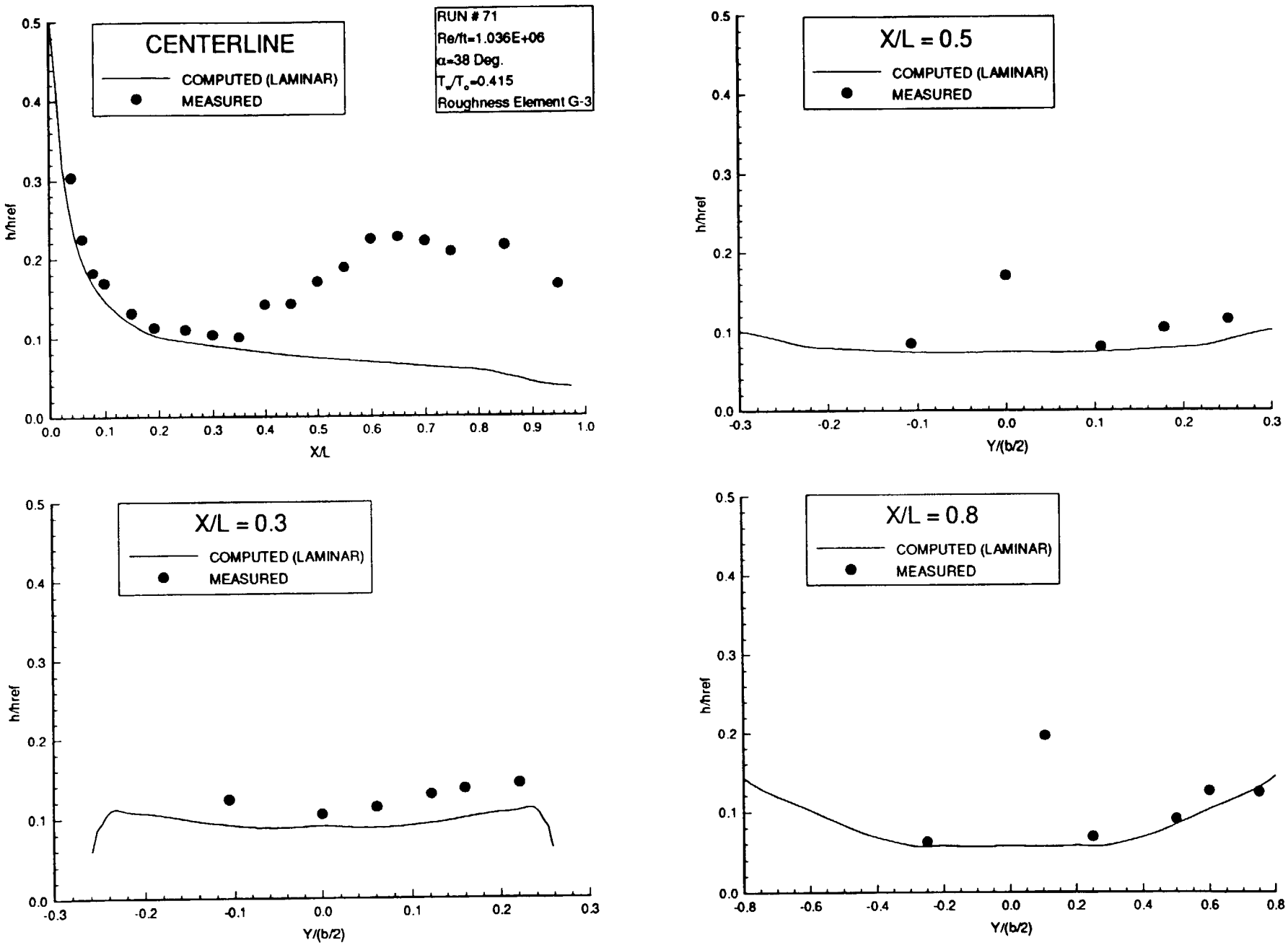


Figure B-66. - Heat Transfer Coefficient Data.

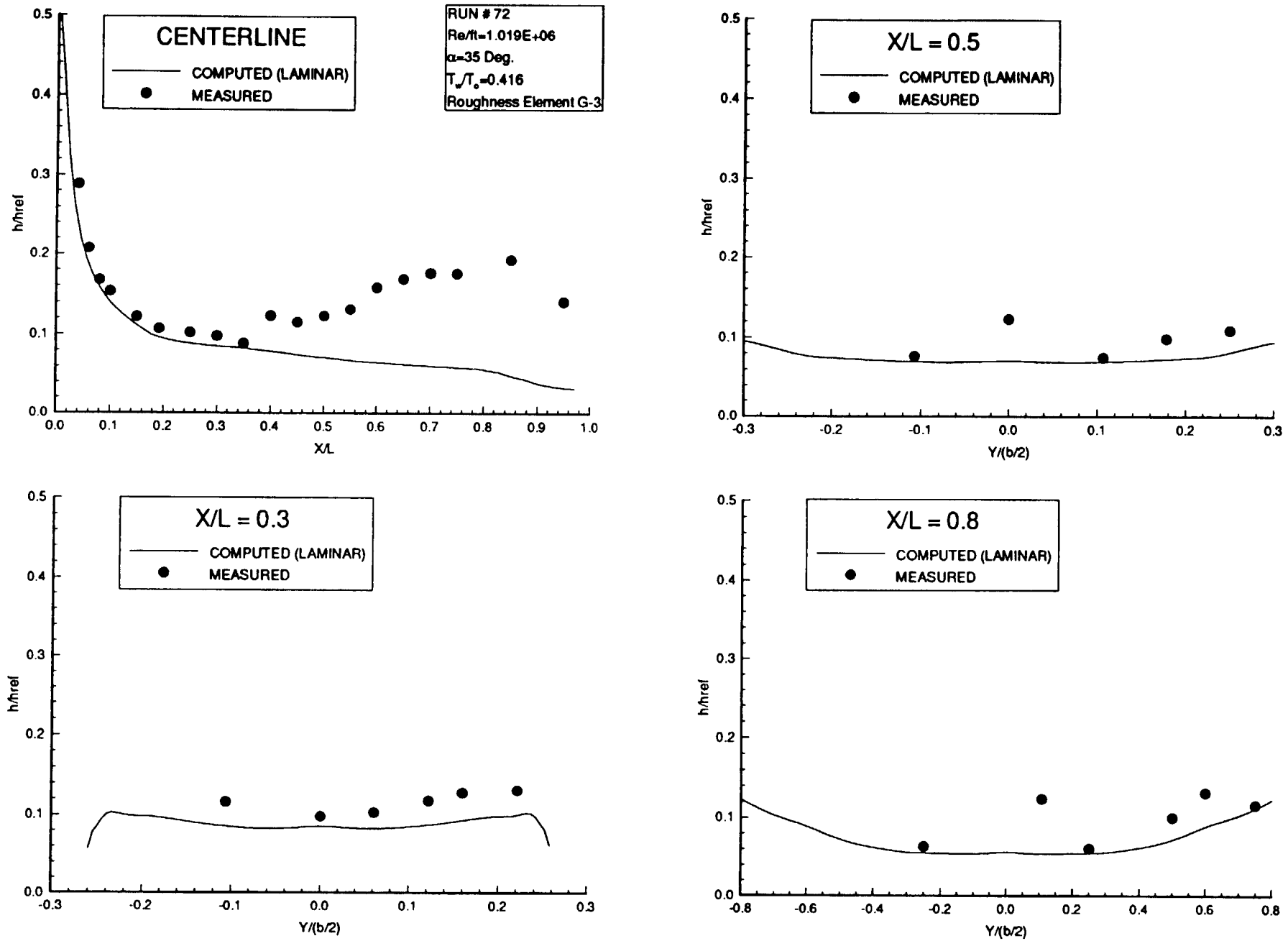


Figure B-67. - Heat Transfer Coefficient Data.

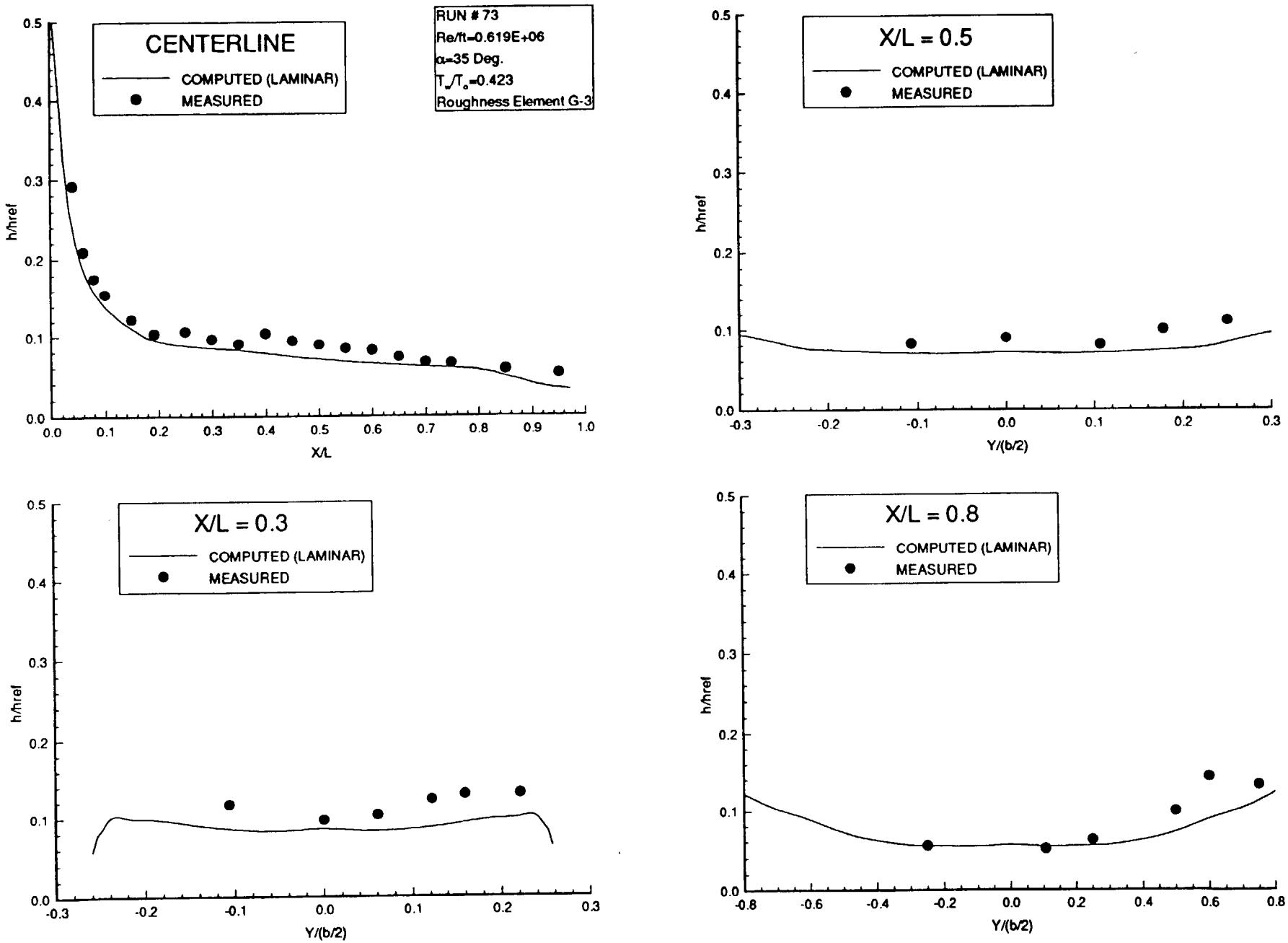


Figure B-68. - Heat Transfer Coefficient Data.

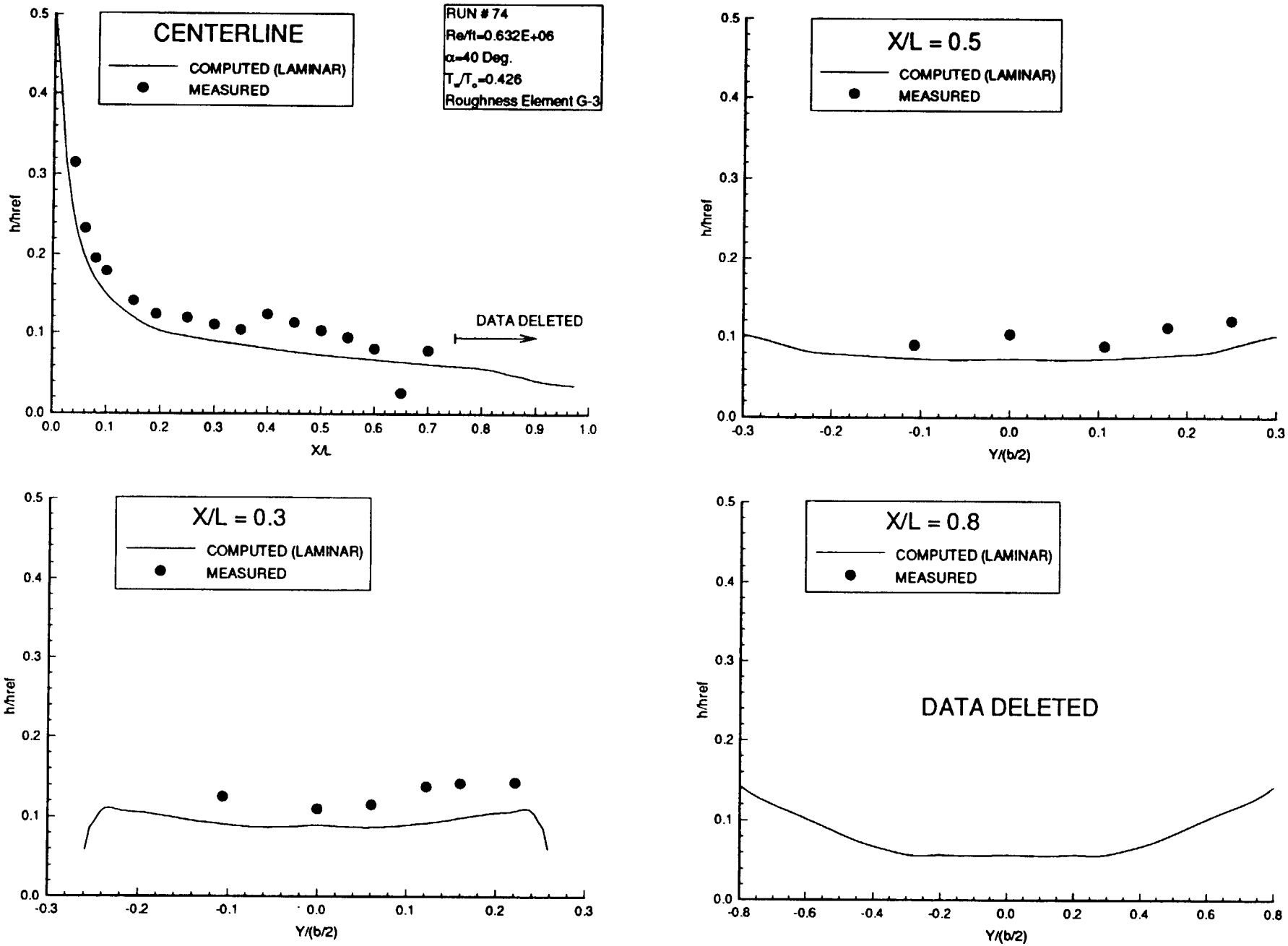


Figure B-69. - Heat Transfer Coefficient Data.

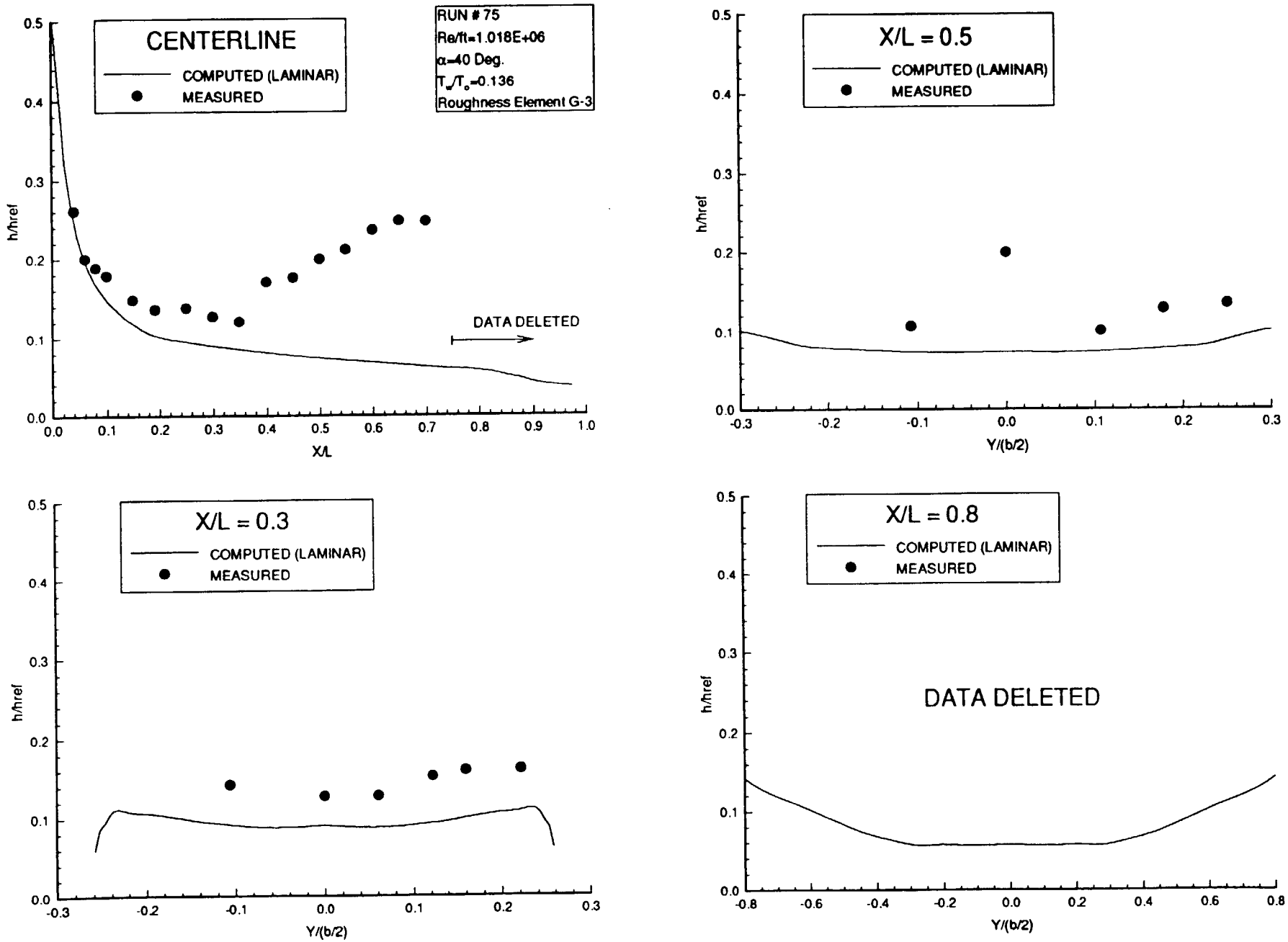


Figure B-70. - Heat Transfer Coefficient Data.

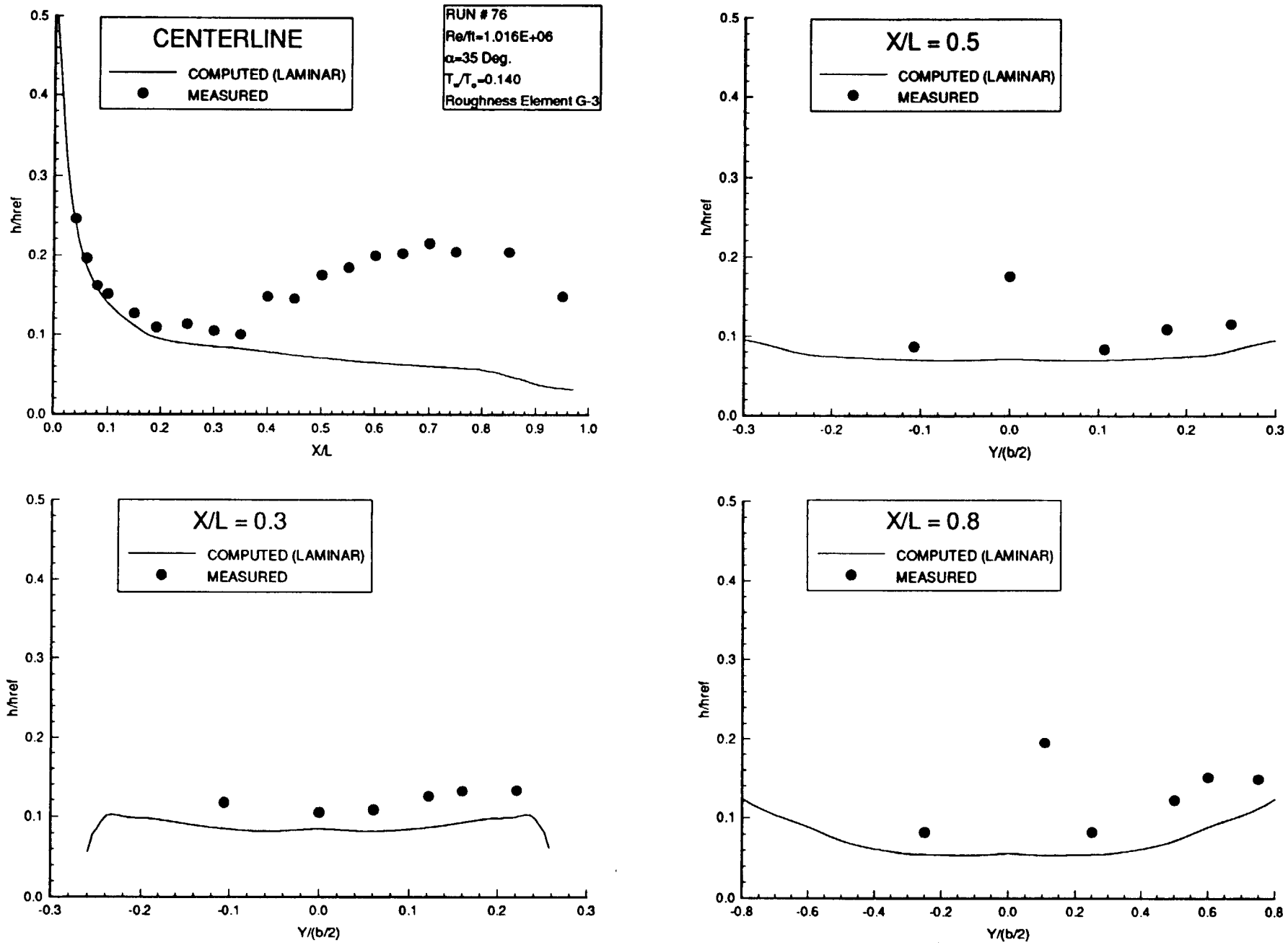


Figure B-71. - Heat Transfer Coefficient Data.

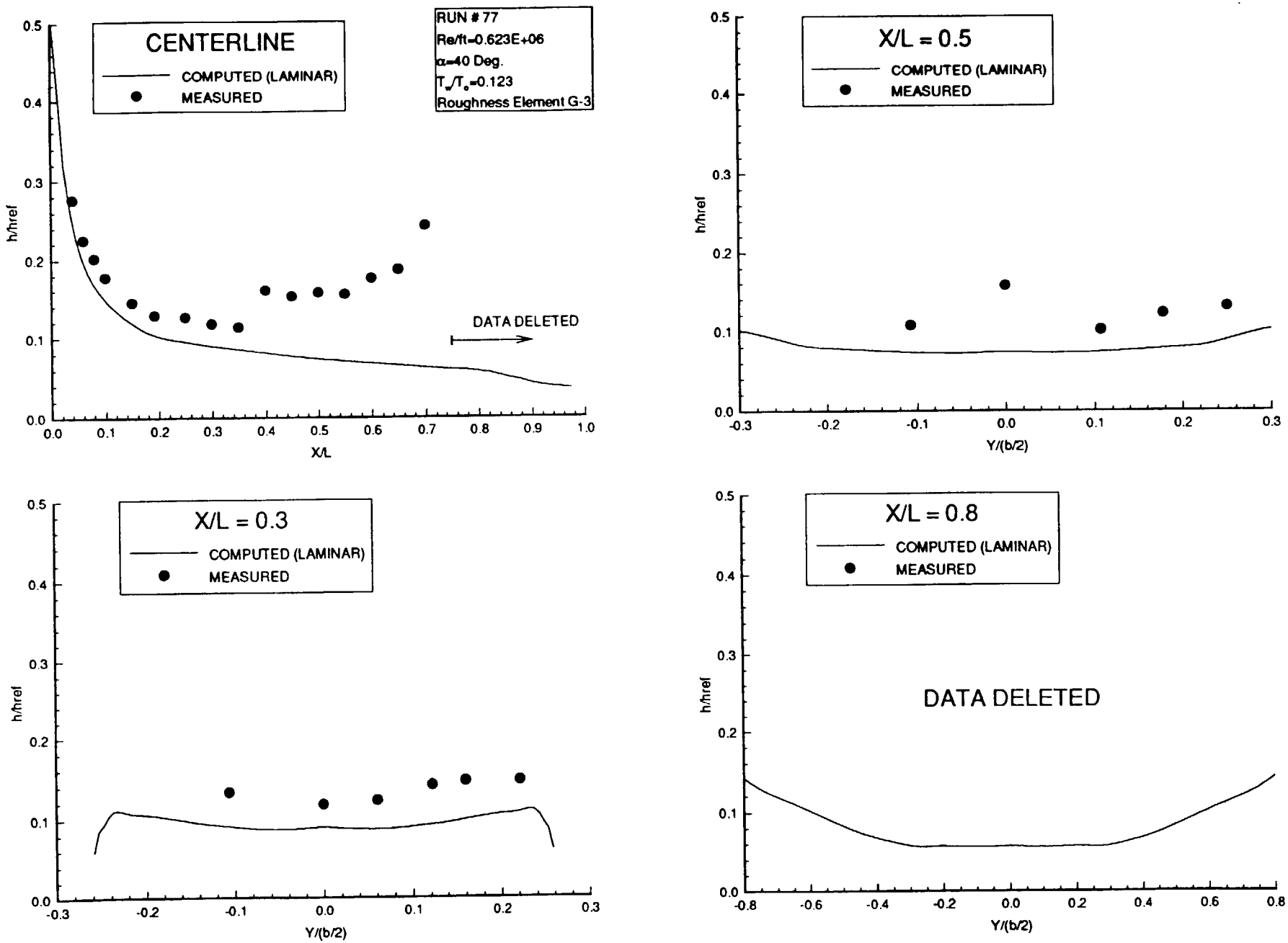


Figure B-72. - Heat Transfer Coefficient Data.

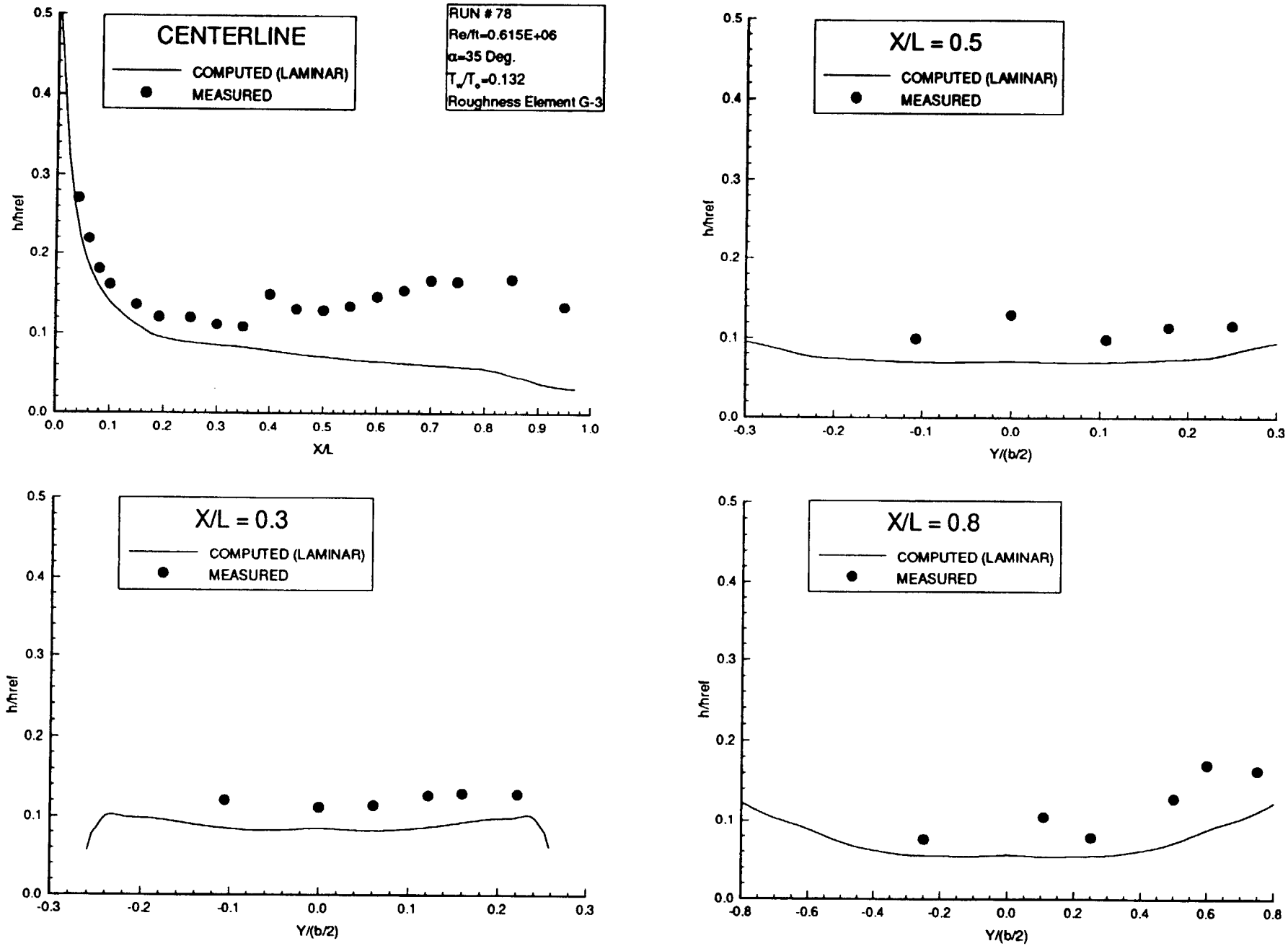


Figure B-73. - Heat Transfer Coefficient Data.

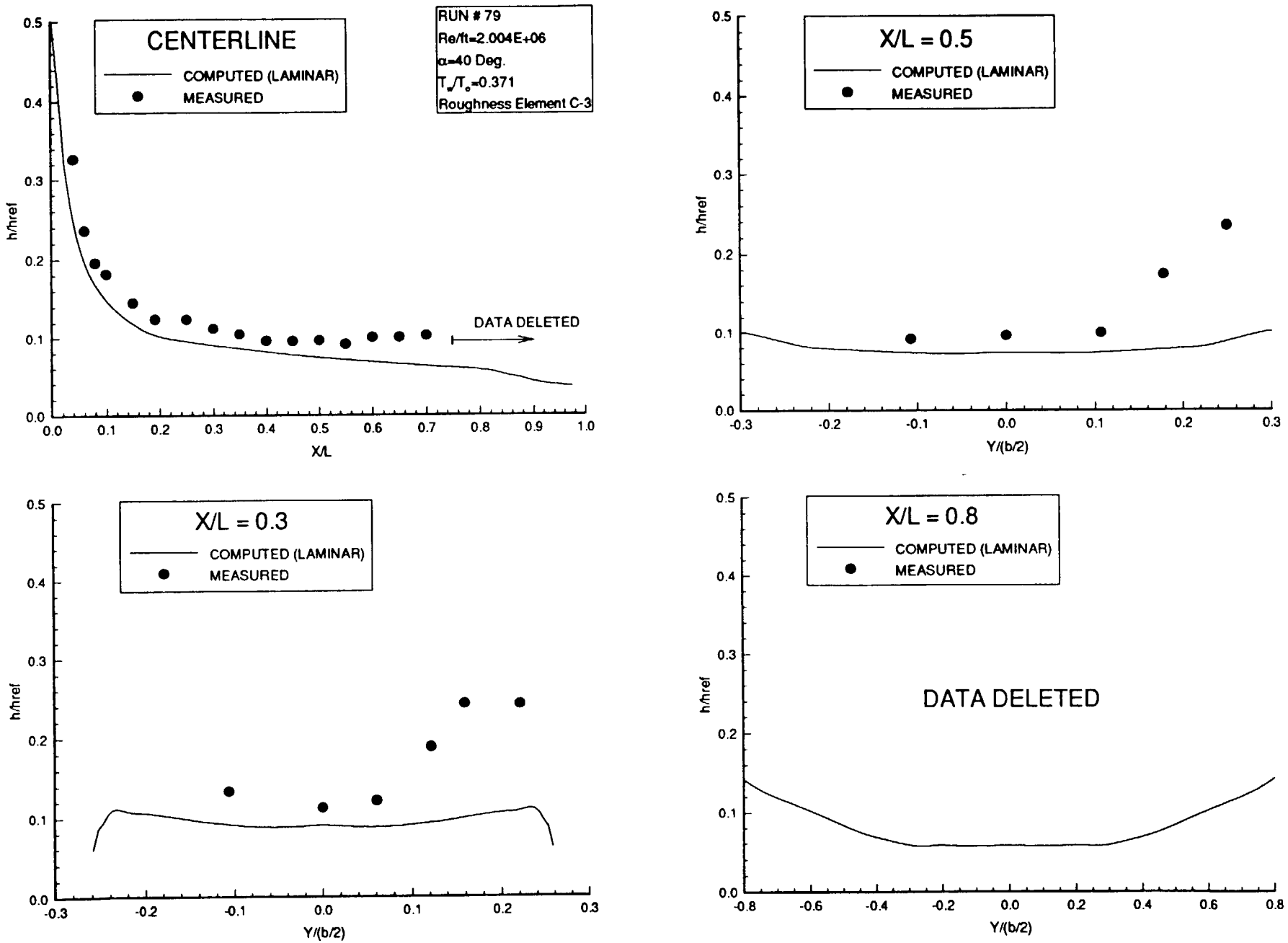


Figure B-74. - Heat Transfer Coefficient Data.

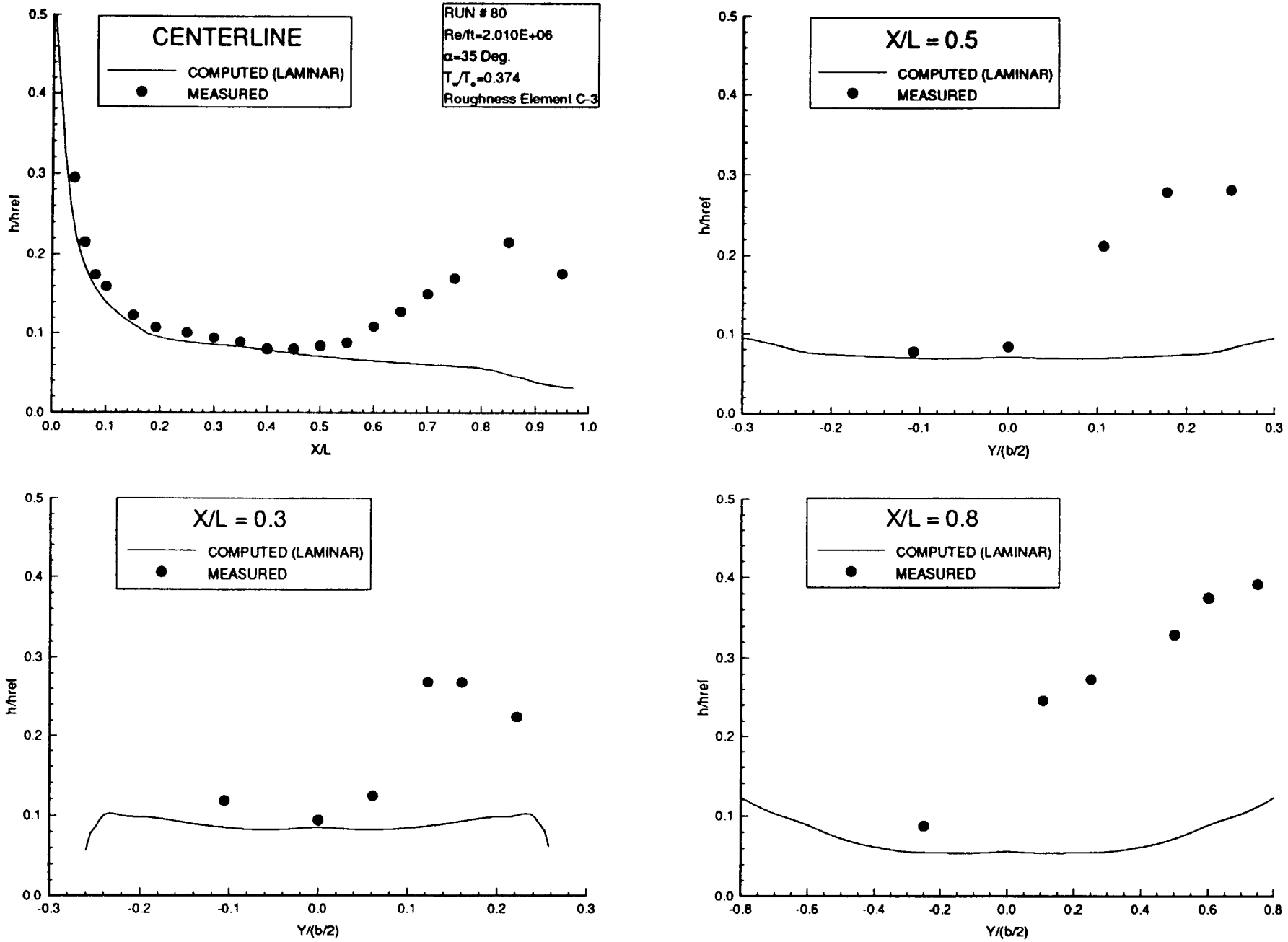


Figure B-75. - Heat Transfer Coefficient Data.

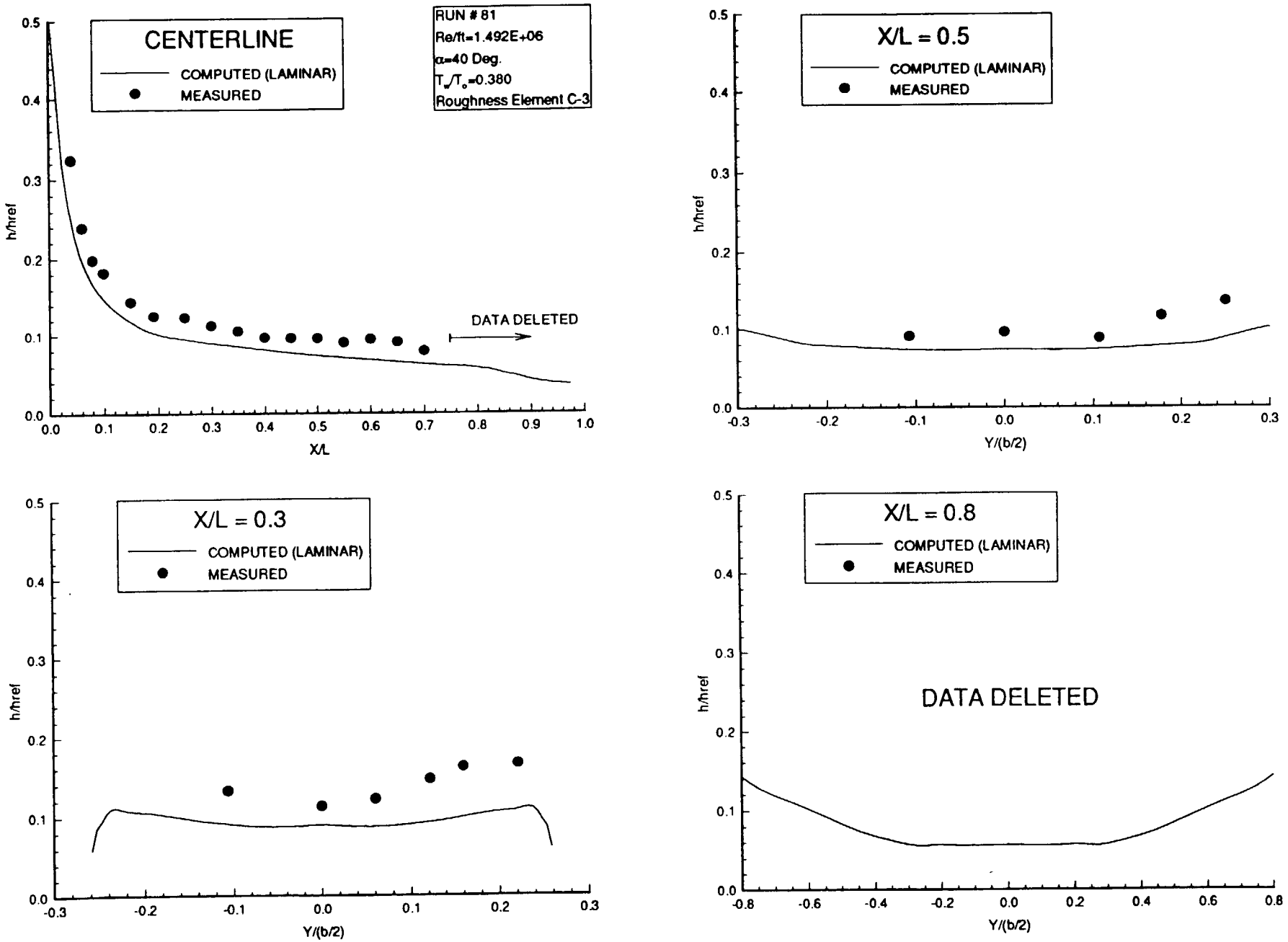


Figure B-76. - Heat Transfer Coefficient Data.

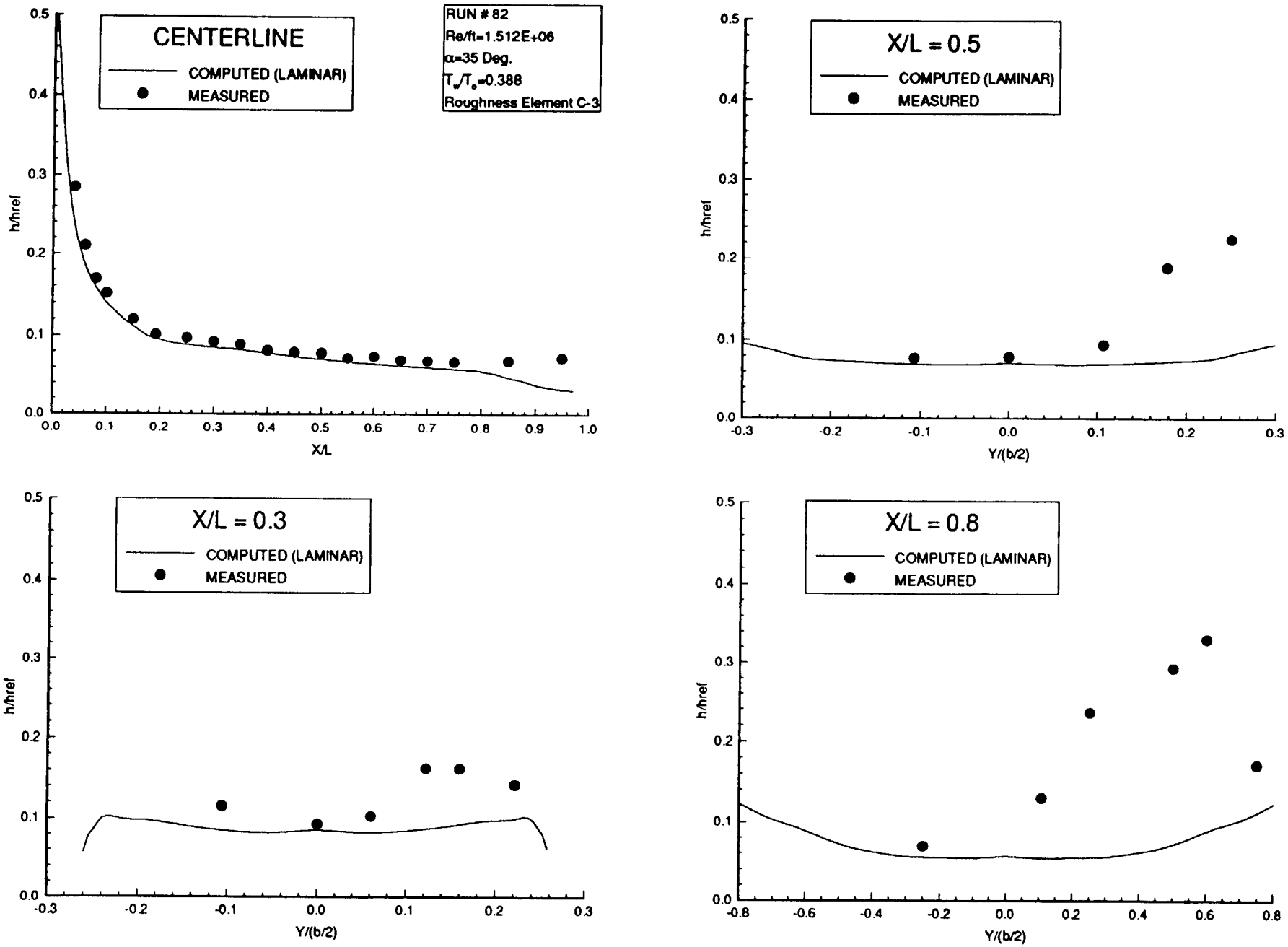


Figure B-77. - Heat Transfer Coefficient Data.

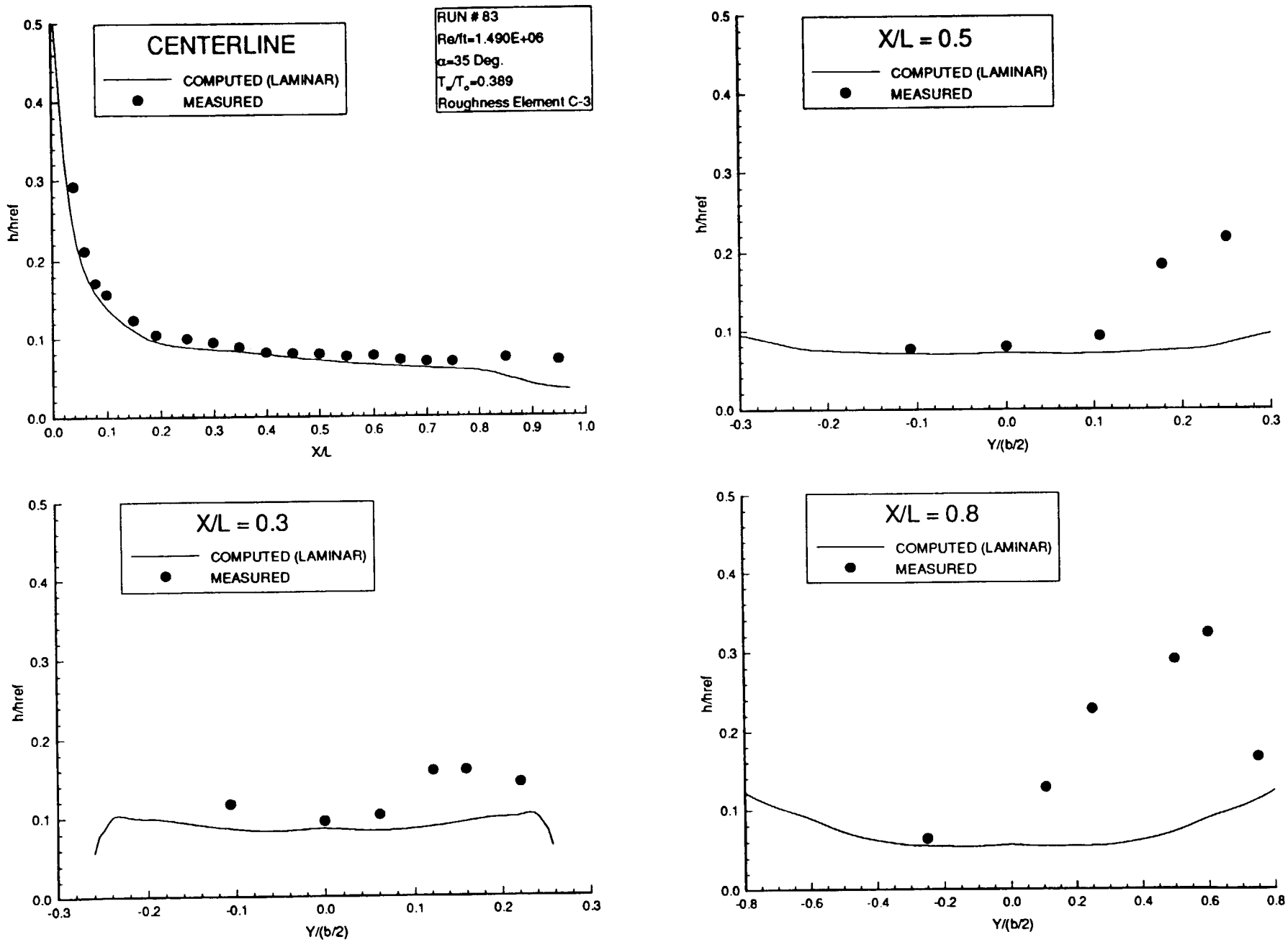


Figure B-78. - Heat Transfer Coefficient Data.

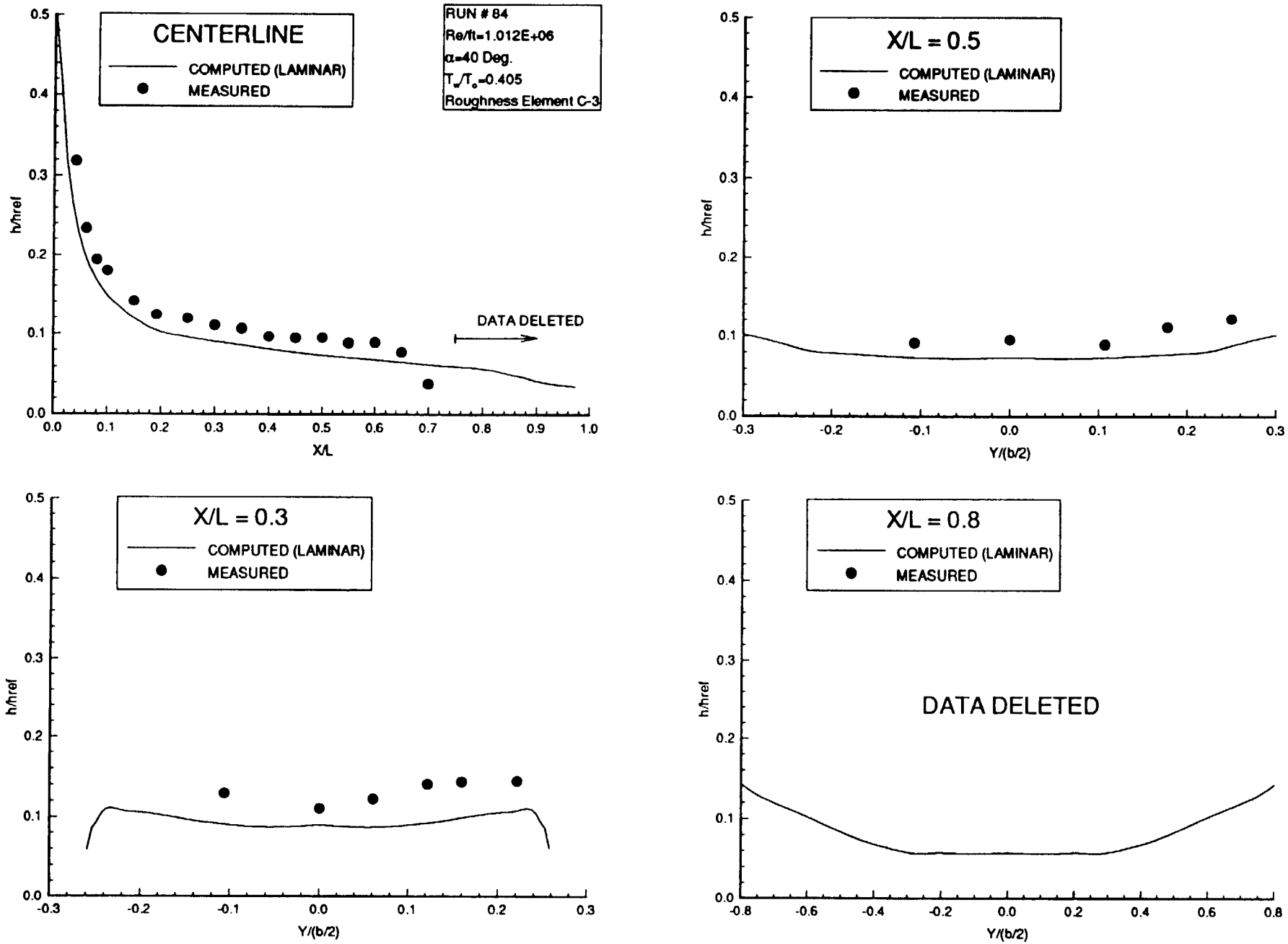


Figure B-79. - Heat Transfer Coefficient Data.

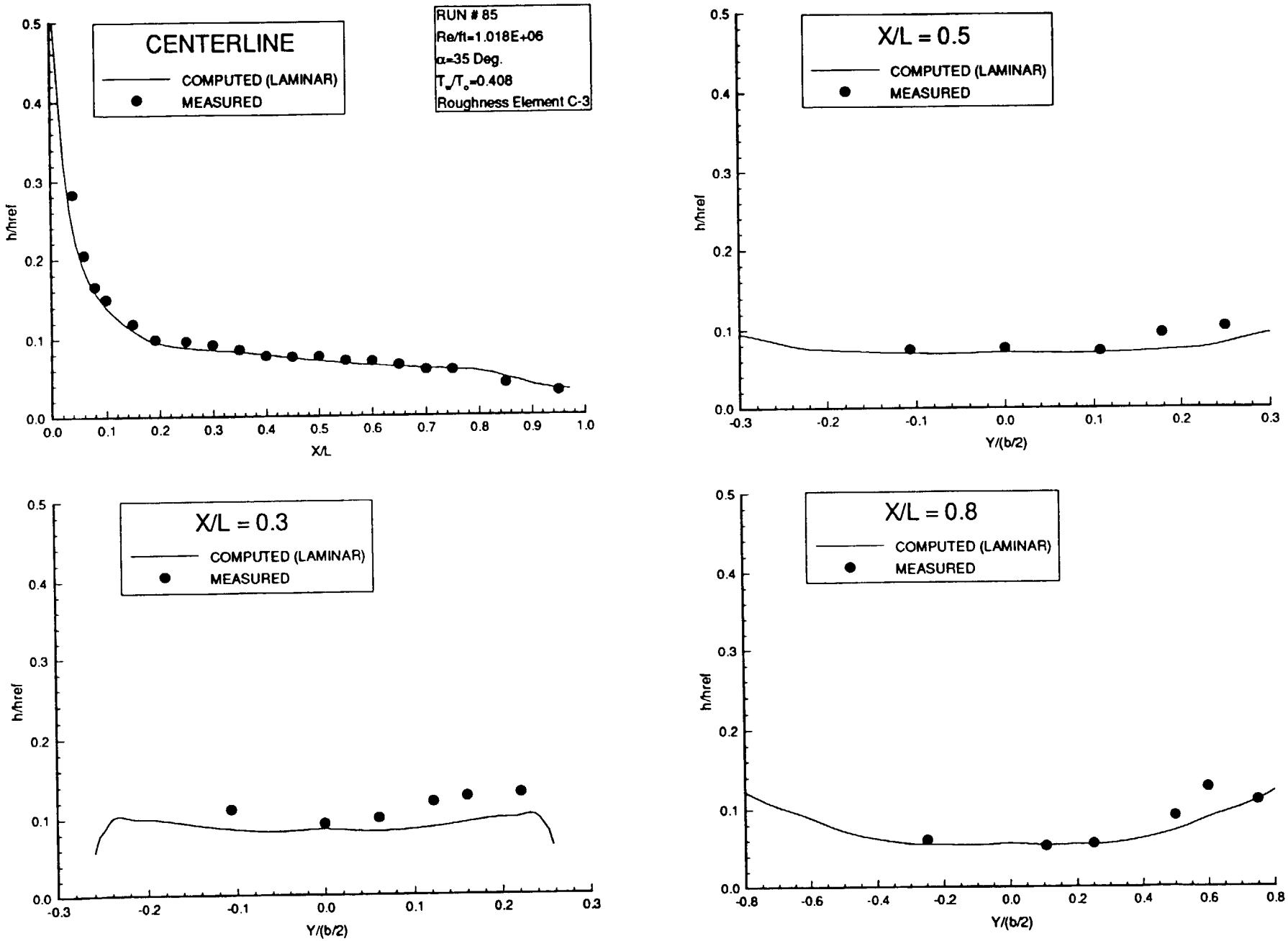


Figure B-80. - Heat Transfer Coefficient Data.

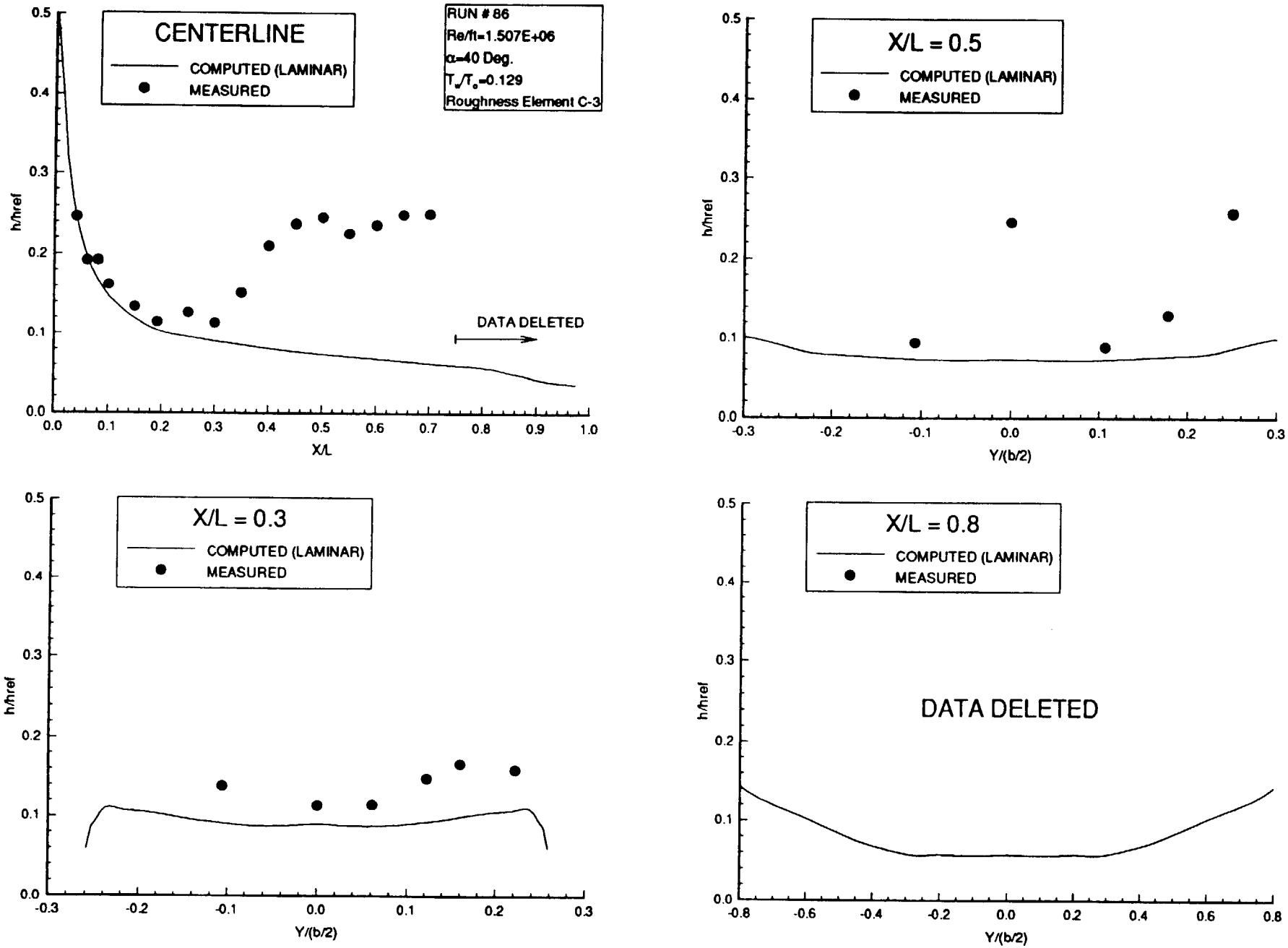


Figure B-81. - Heat Transfer Coefficient Data.

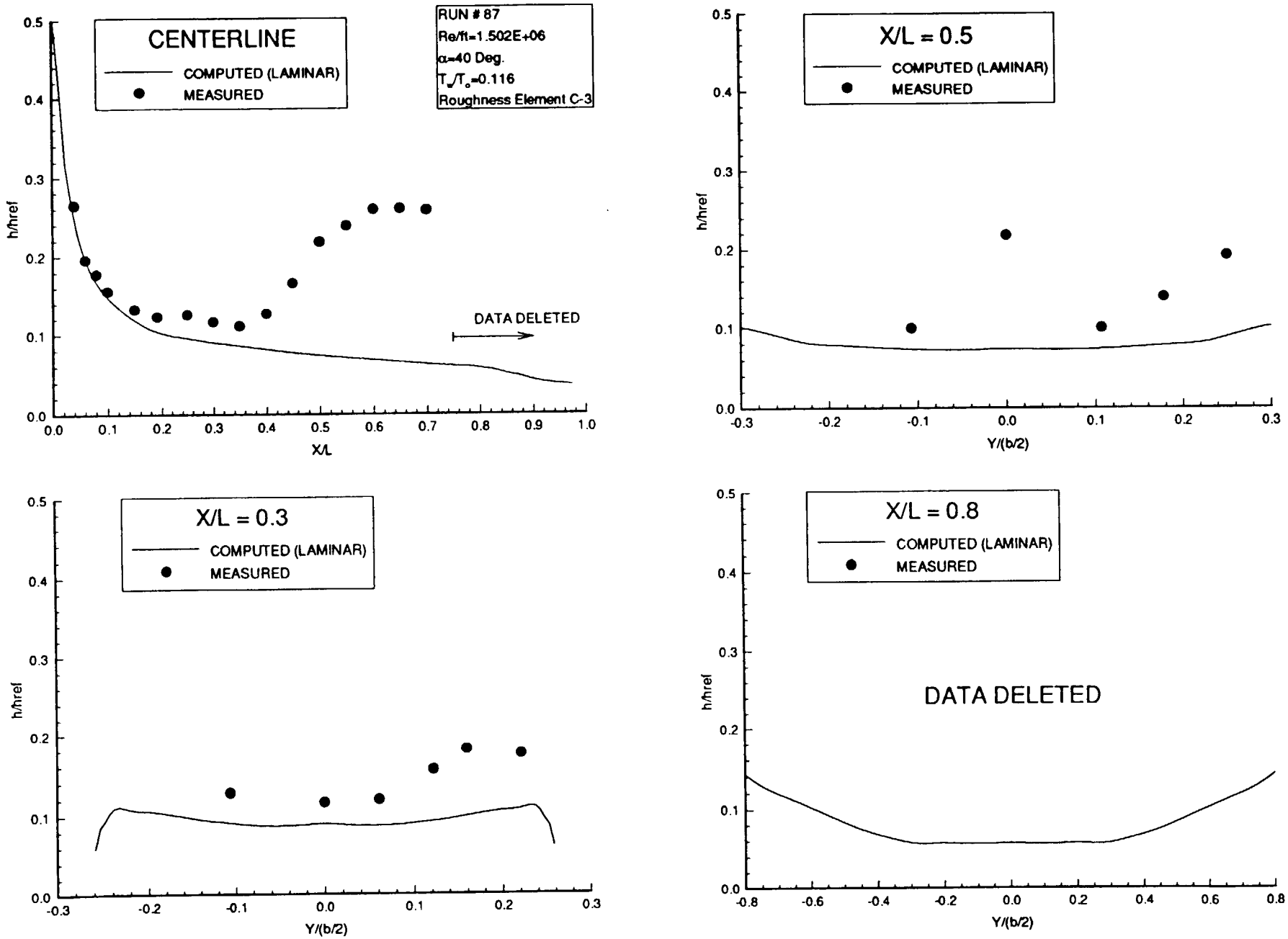


Figure B-82. - Heat Transfer Coefficient Data.

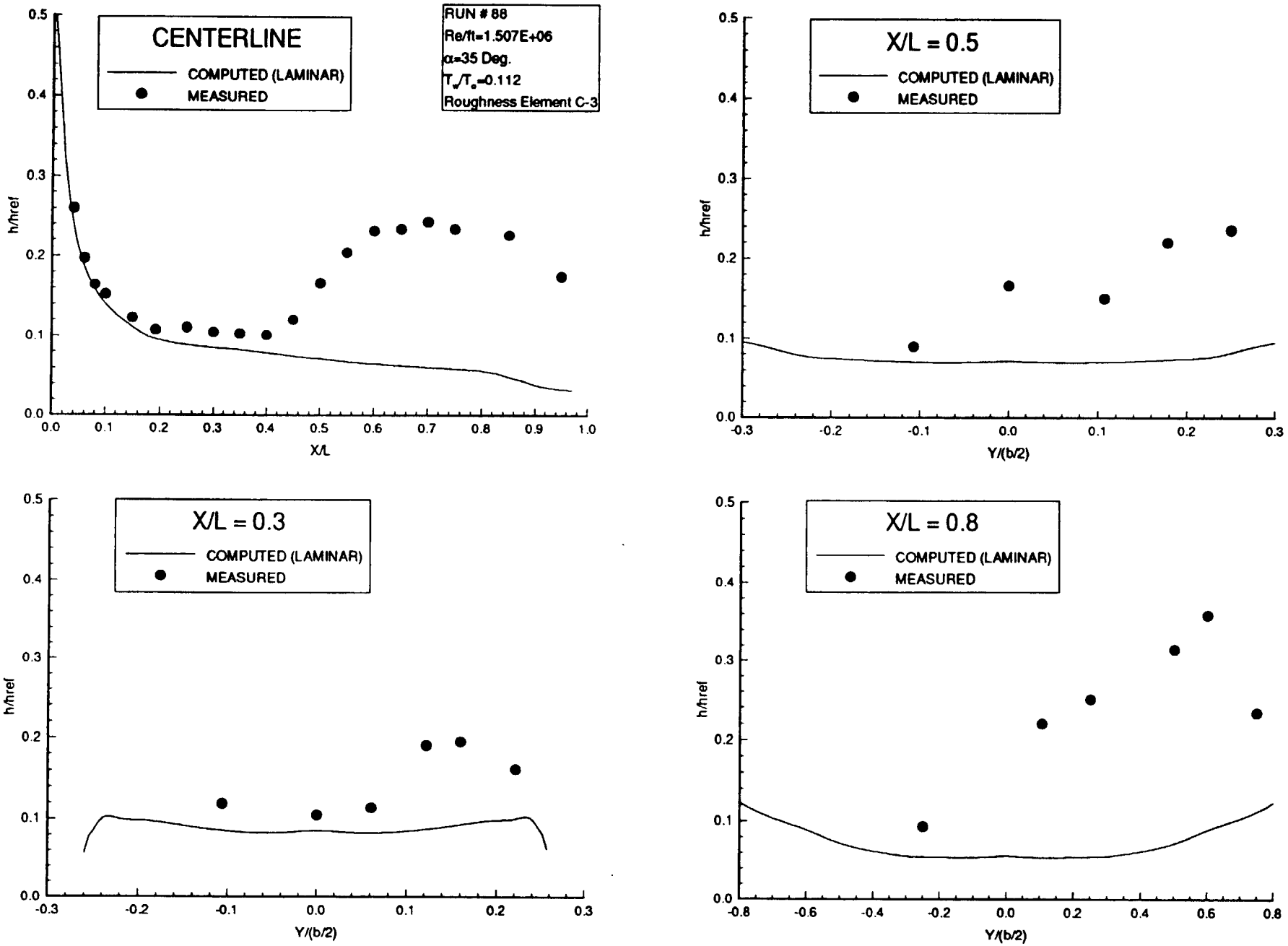


Figure B-83. - Heat Transfer Coefficient Data.

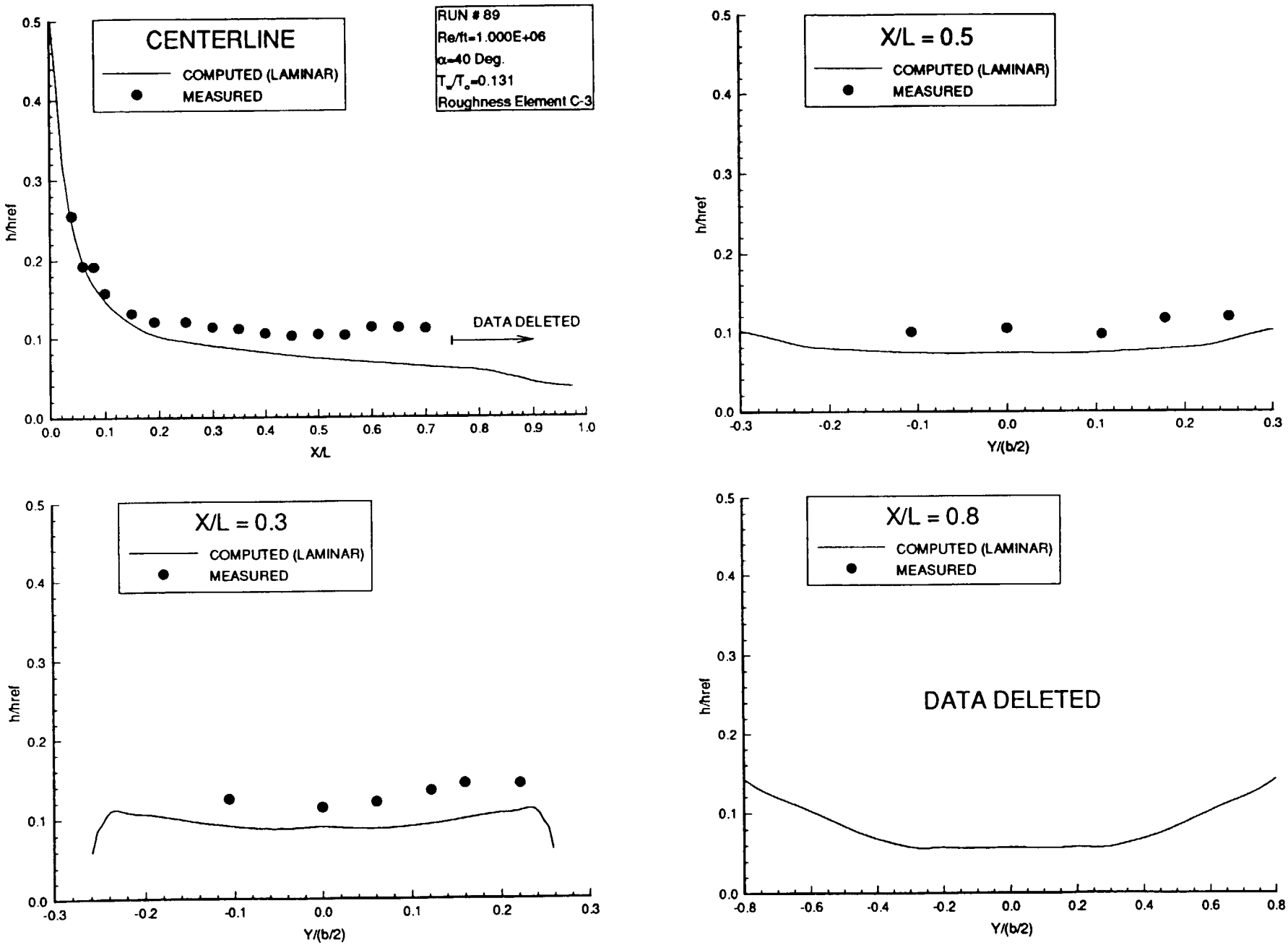


Figure B-84. - Heat Transfer Coefficient Data.

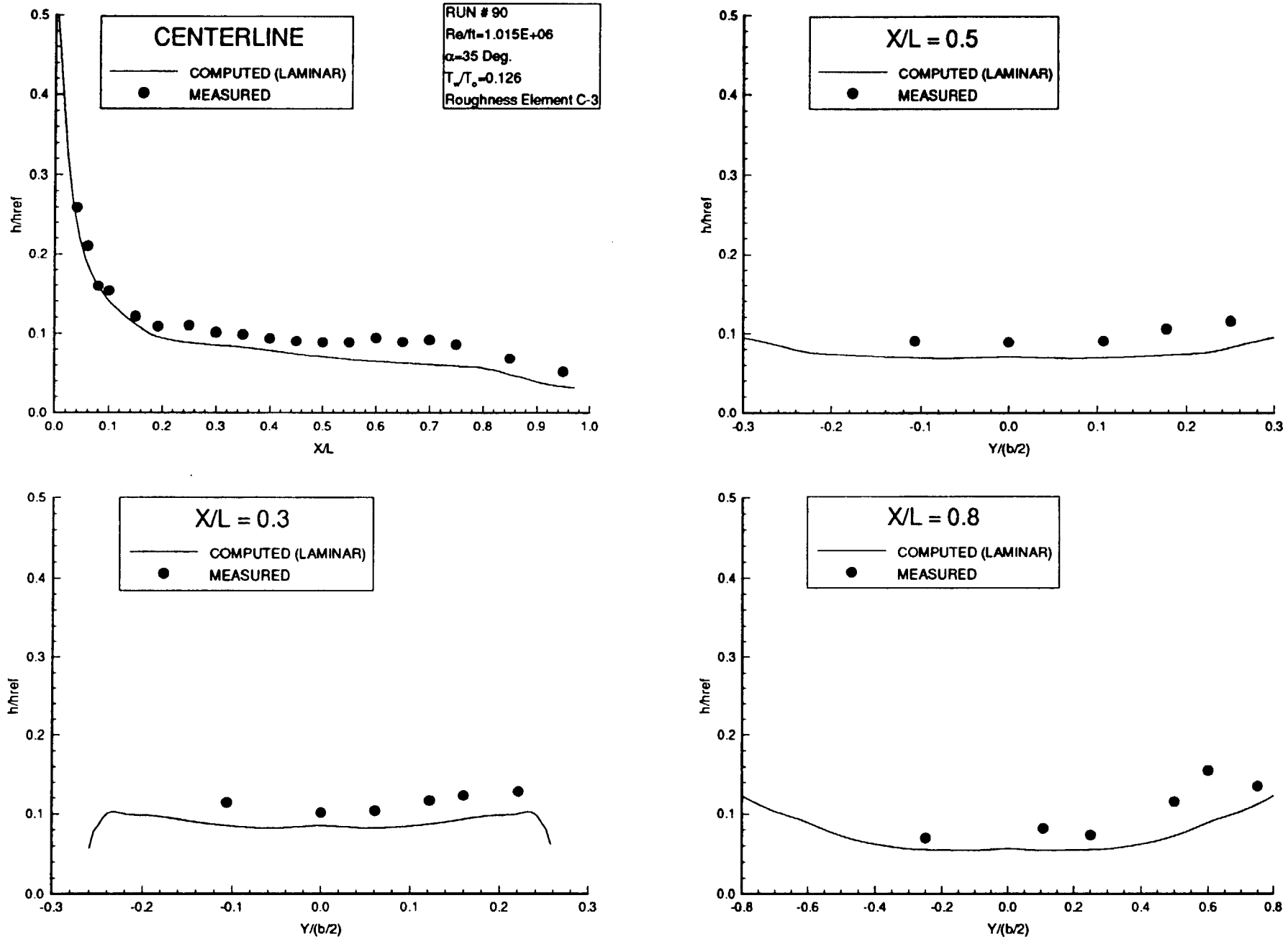


Figure B-85. - Heat Transfer Coefficient Data.

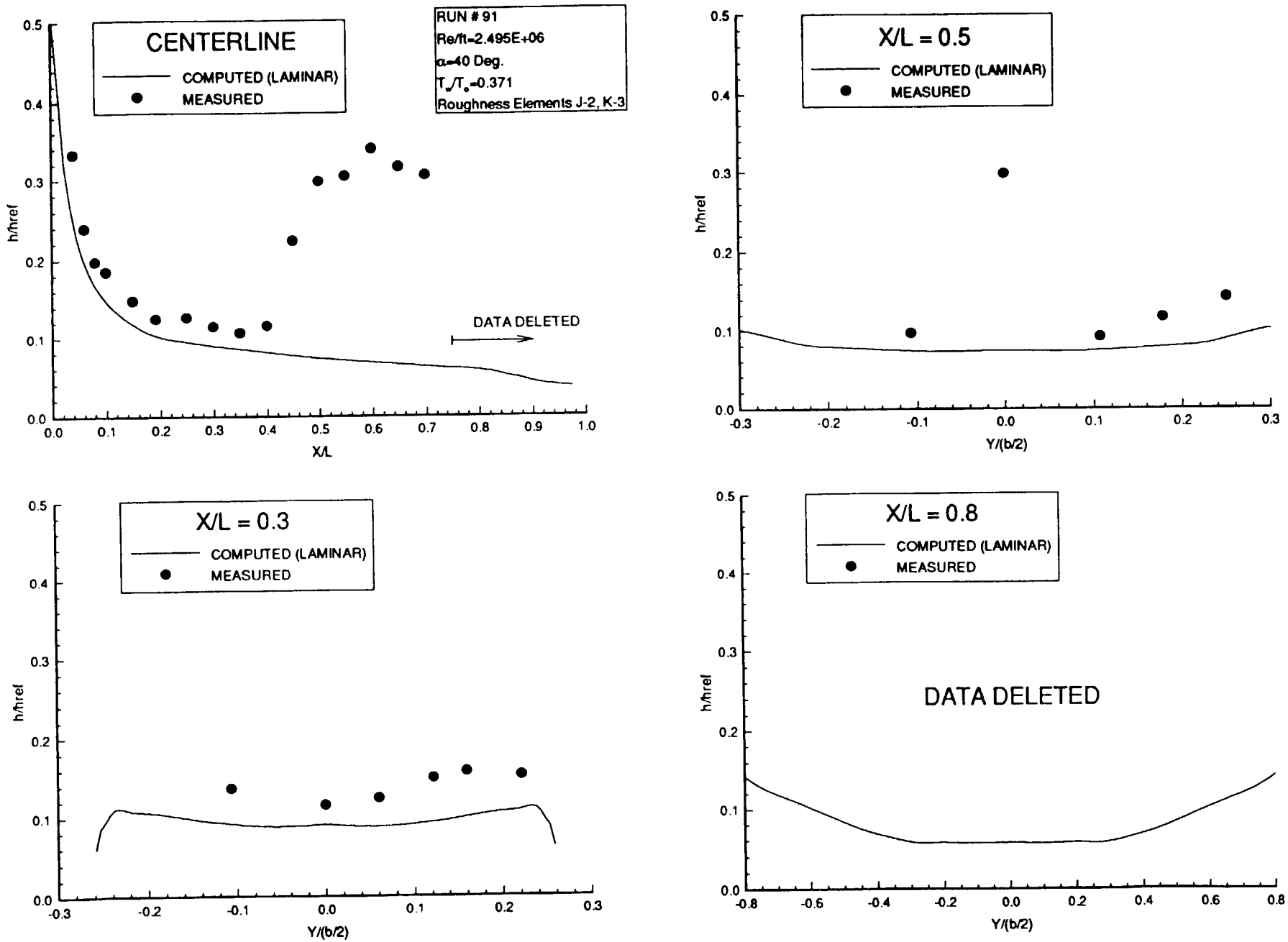


Figure B-86. - Heat Transfer Coefficient Data.

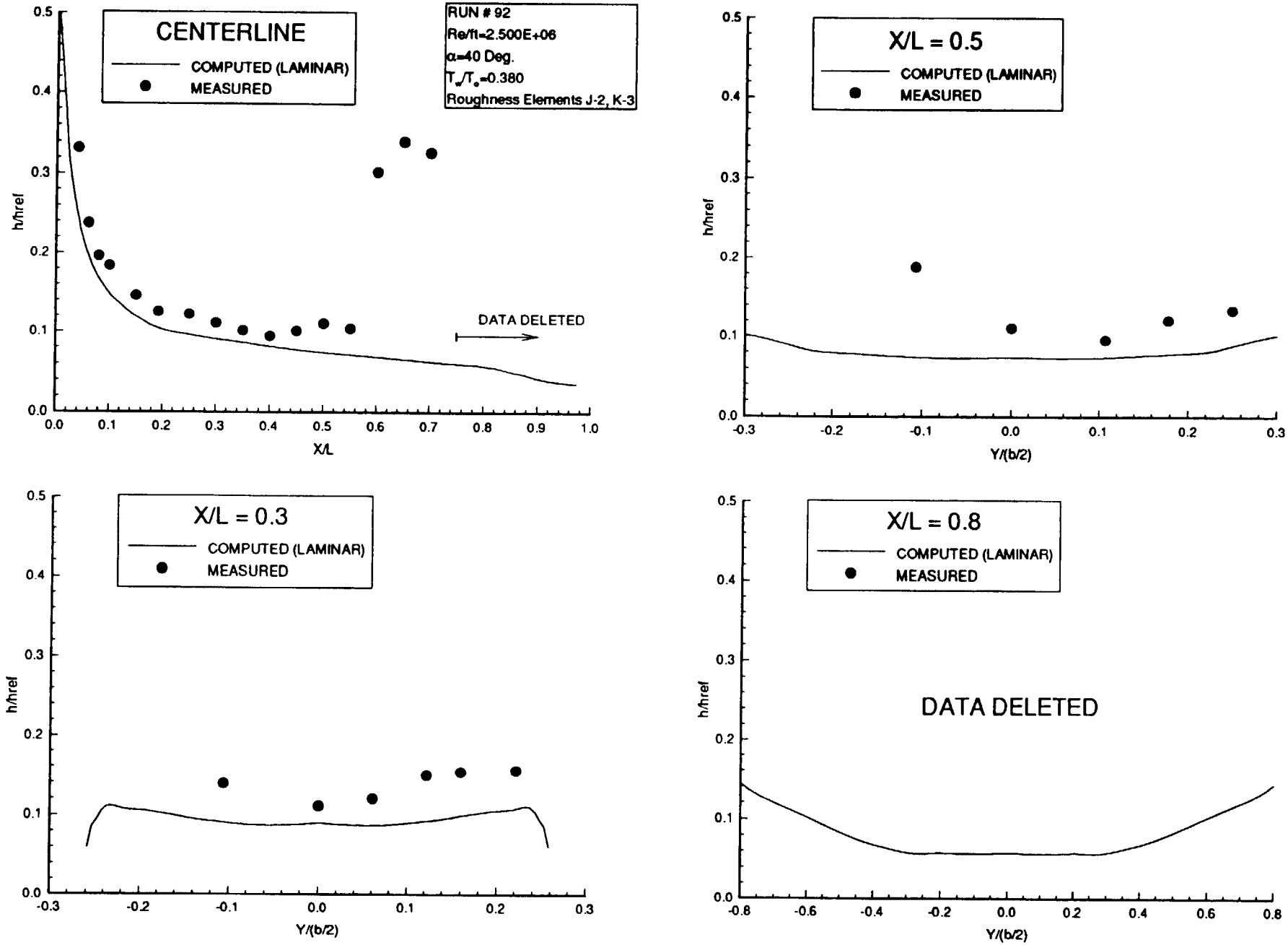


Figure B-87. - Heat Transfer Coefficient Data.

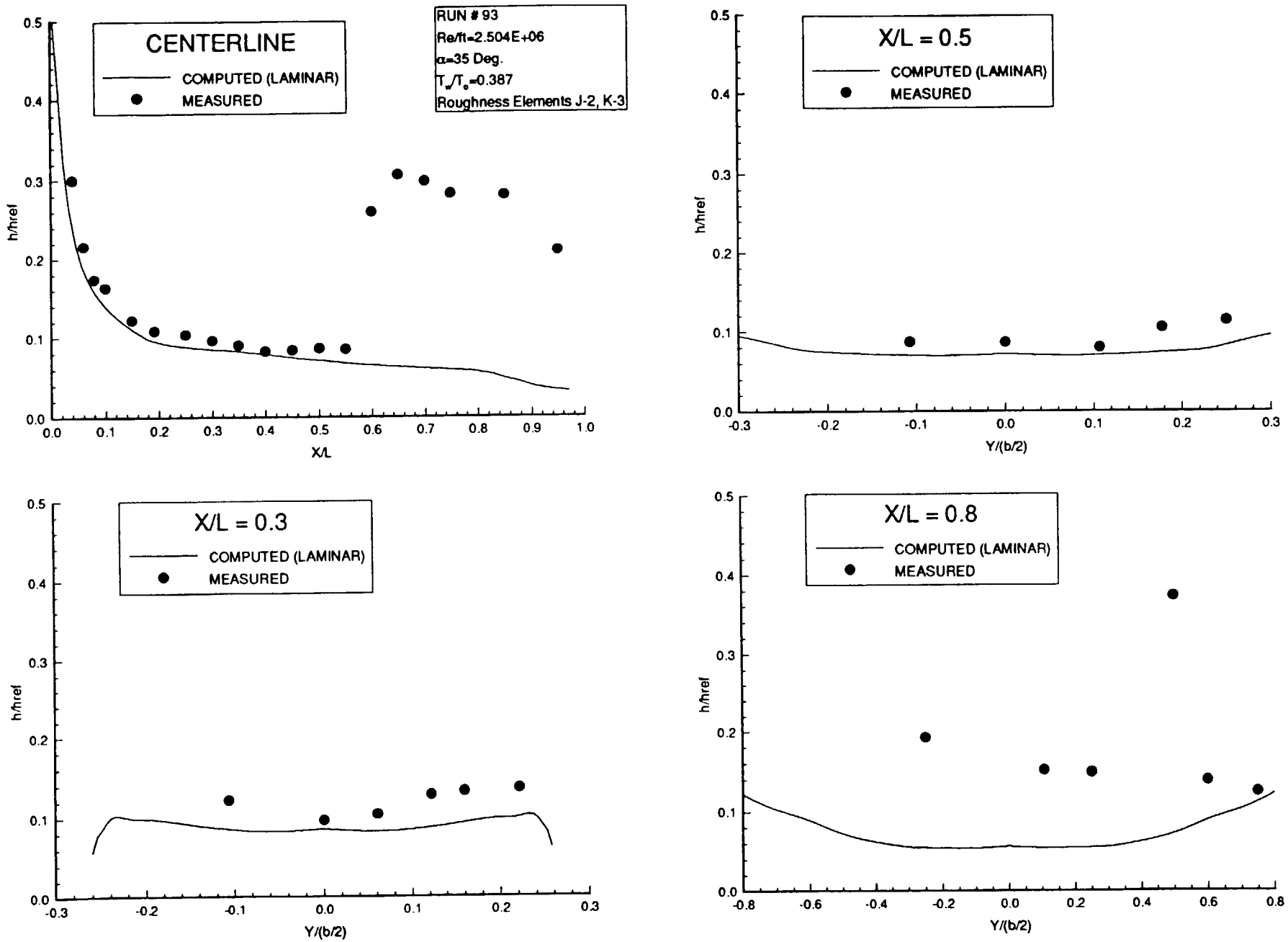


Figure B-88. - Heat Transfer Coefficient Data.

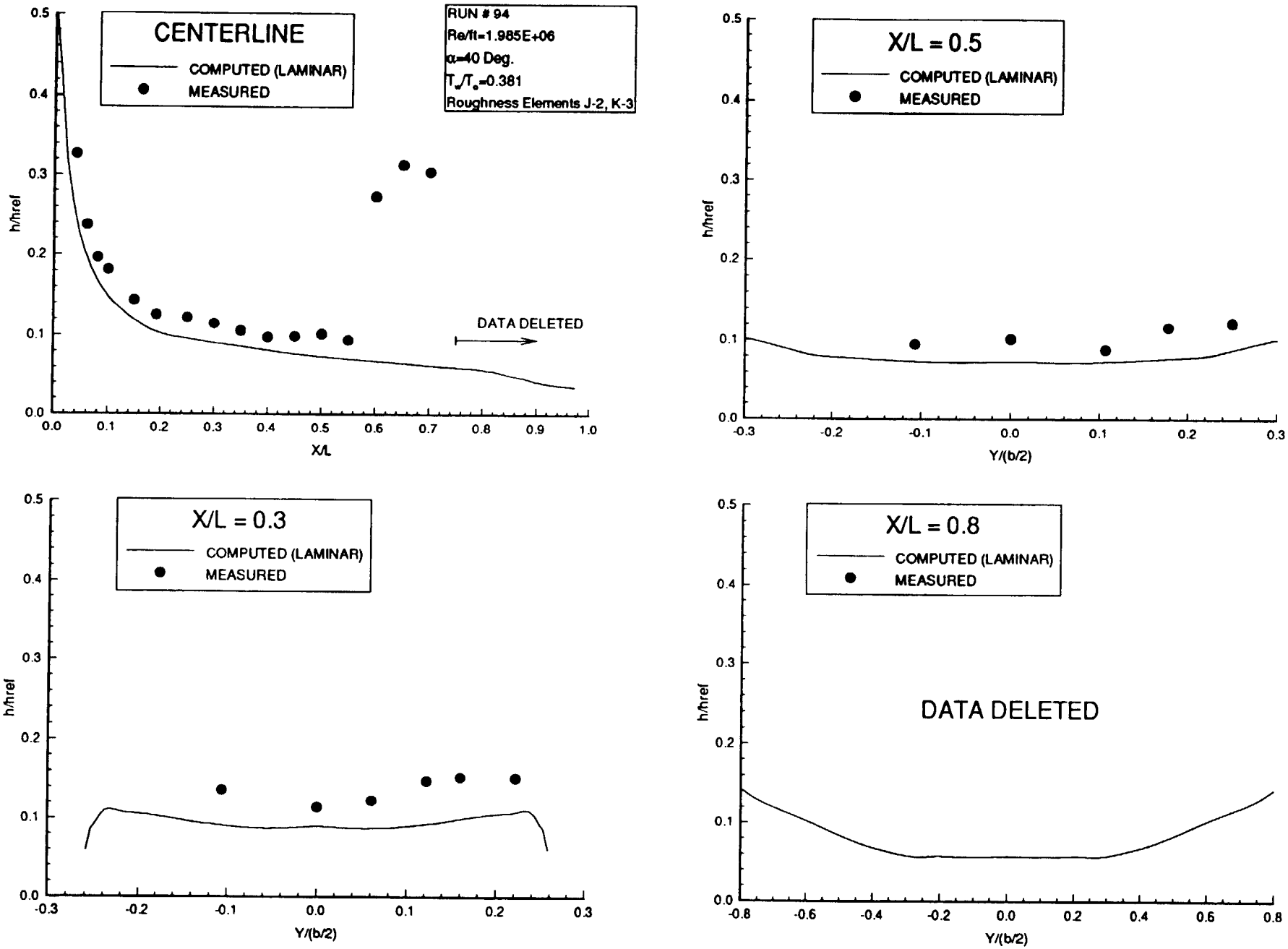


Figure B-89. - Heat Transfer Coefficient Data.

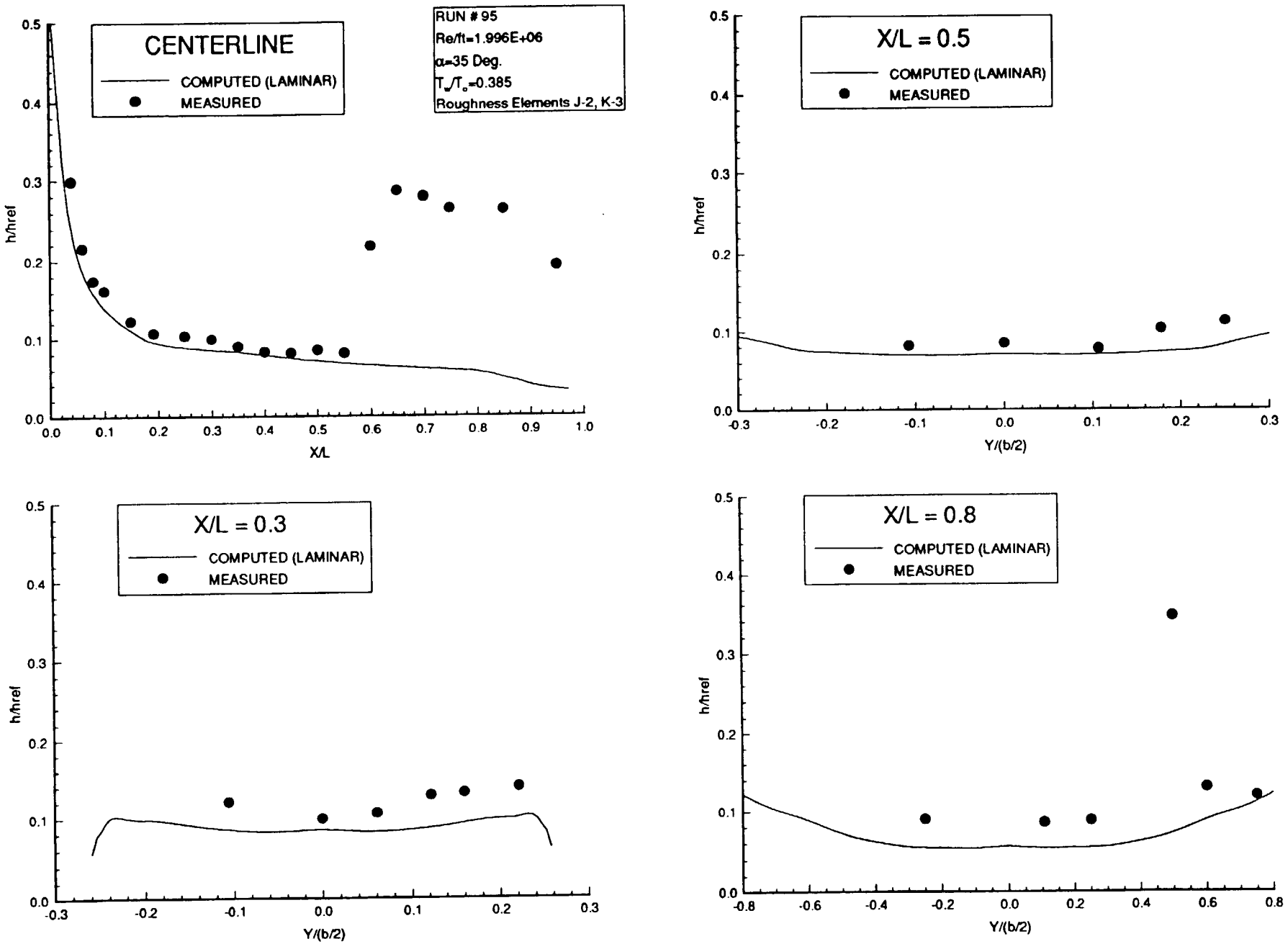


Figure B-90. - Heat Transfer Coefficient Data.

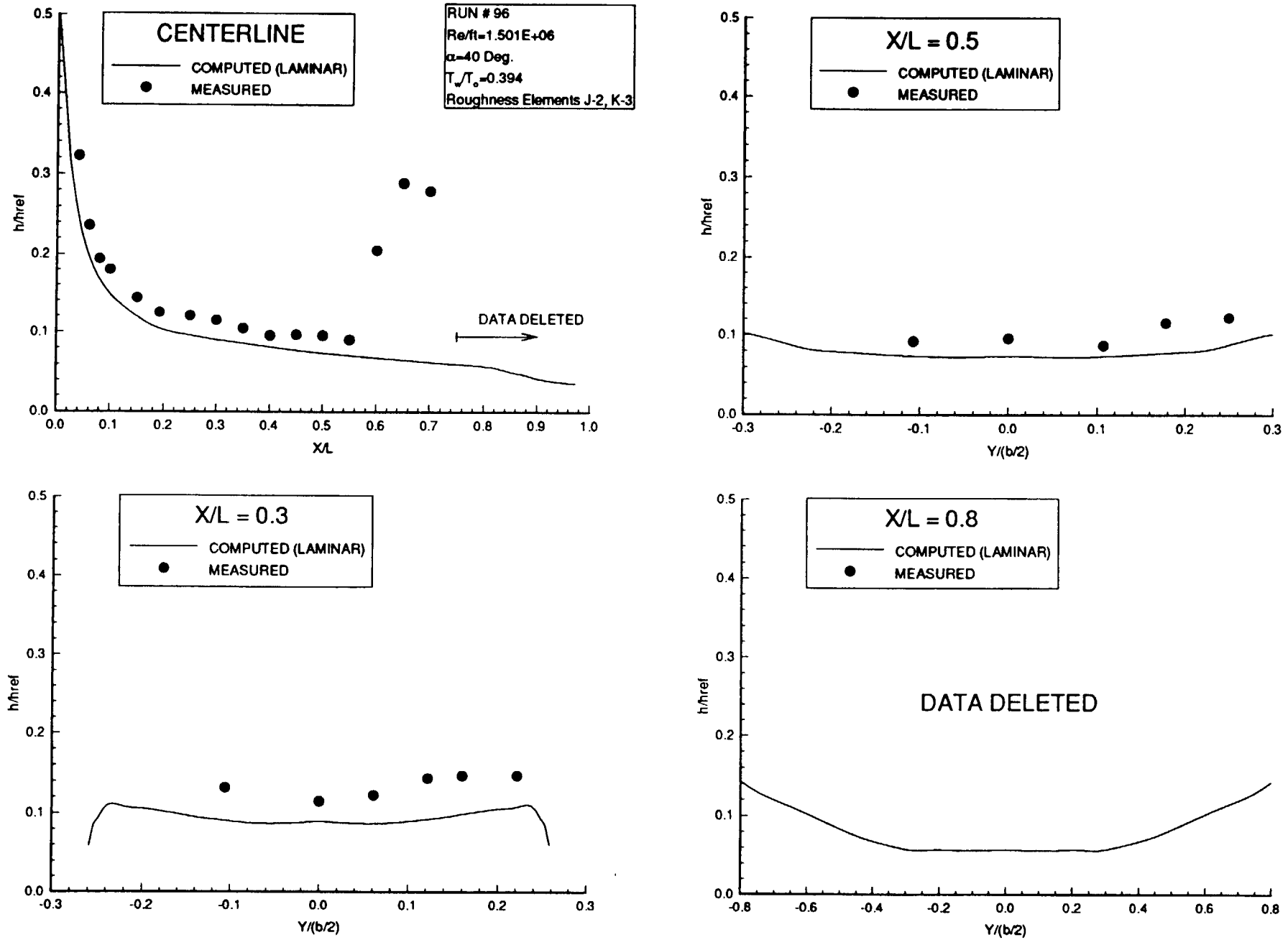


Figure B-91. - Heat Transfer Coefficient Data.

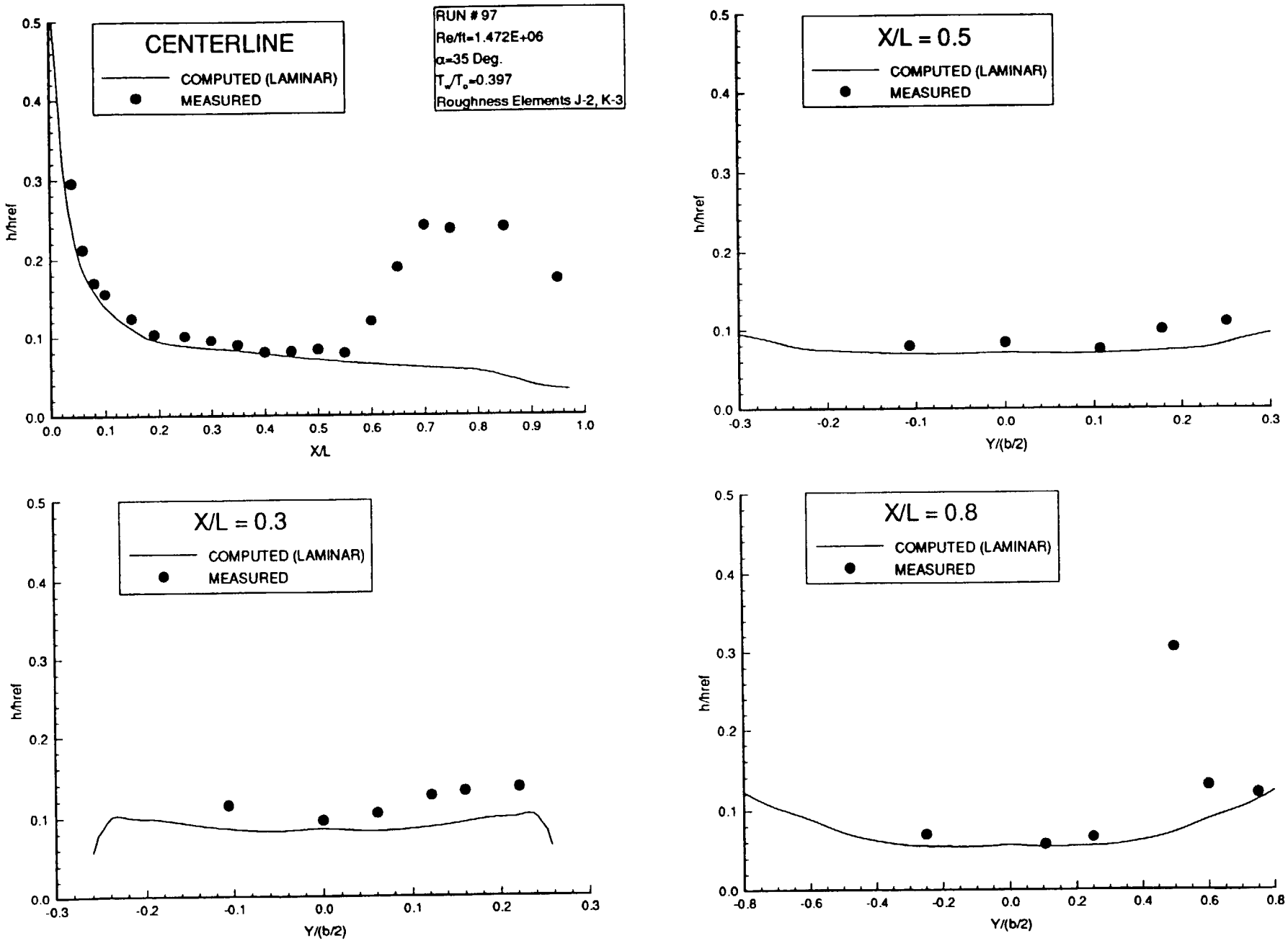


Figure B-92. - Heat Transfer Coefficient Data.

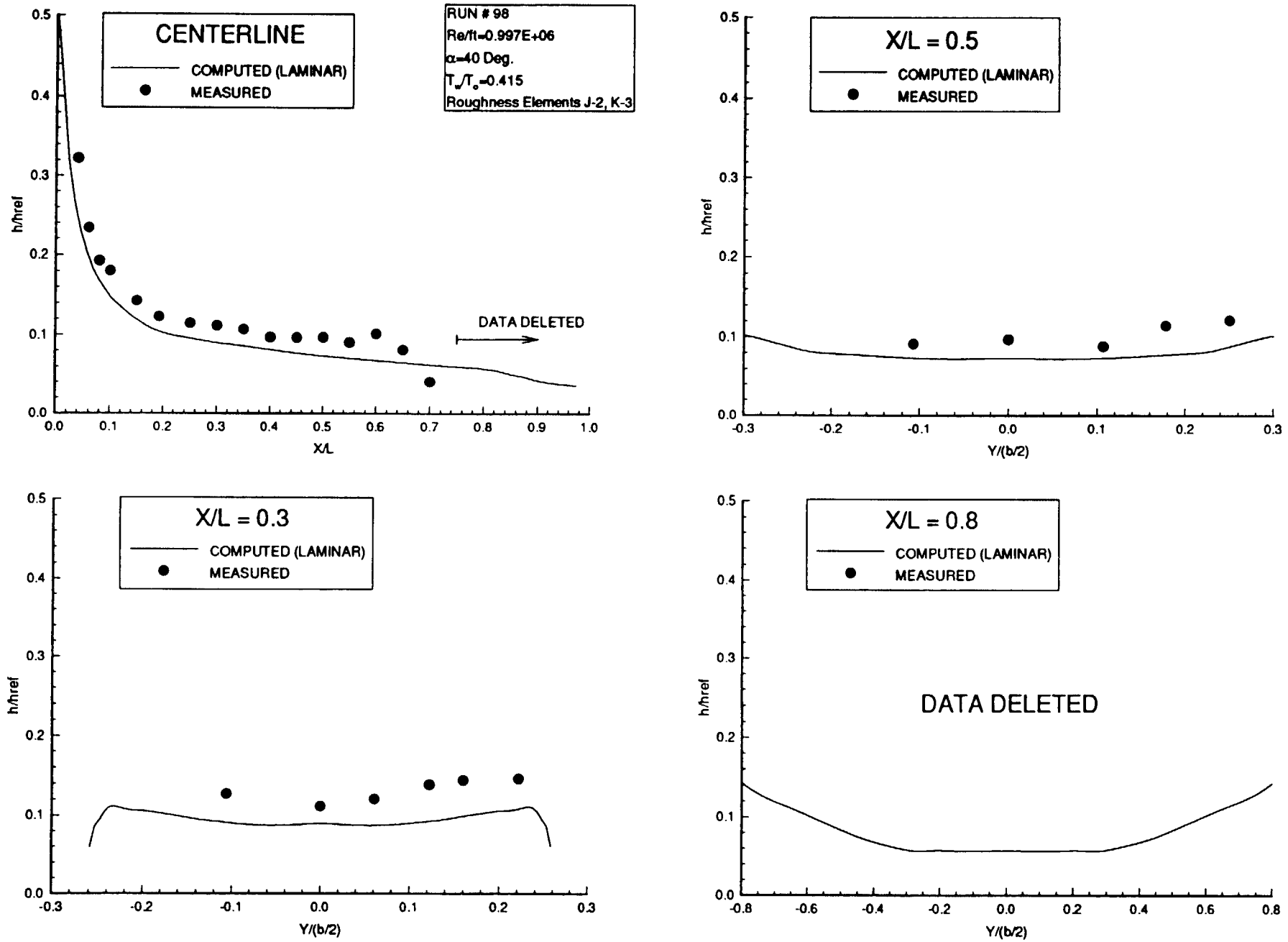


Figure B-93. - Heat Transfer Coefficient Data.

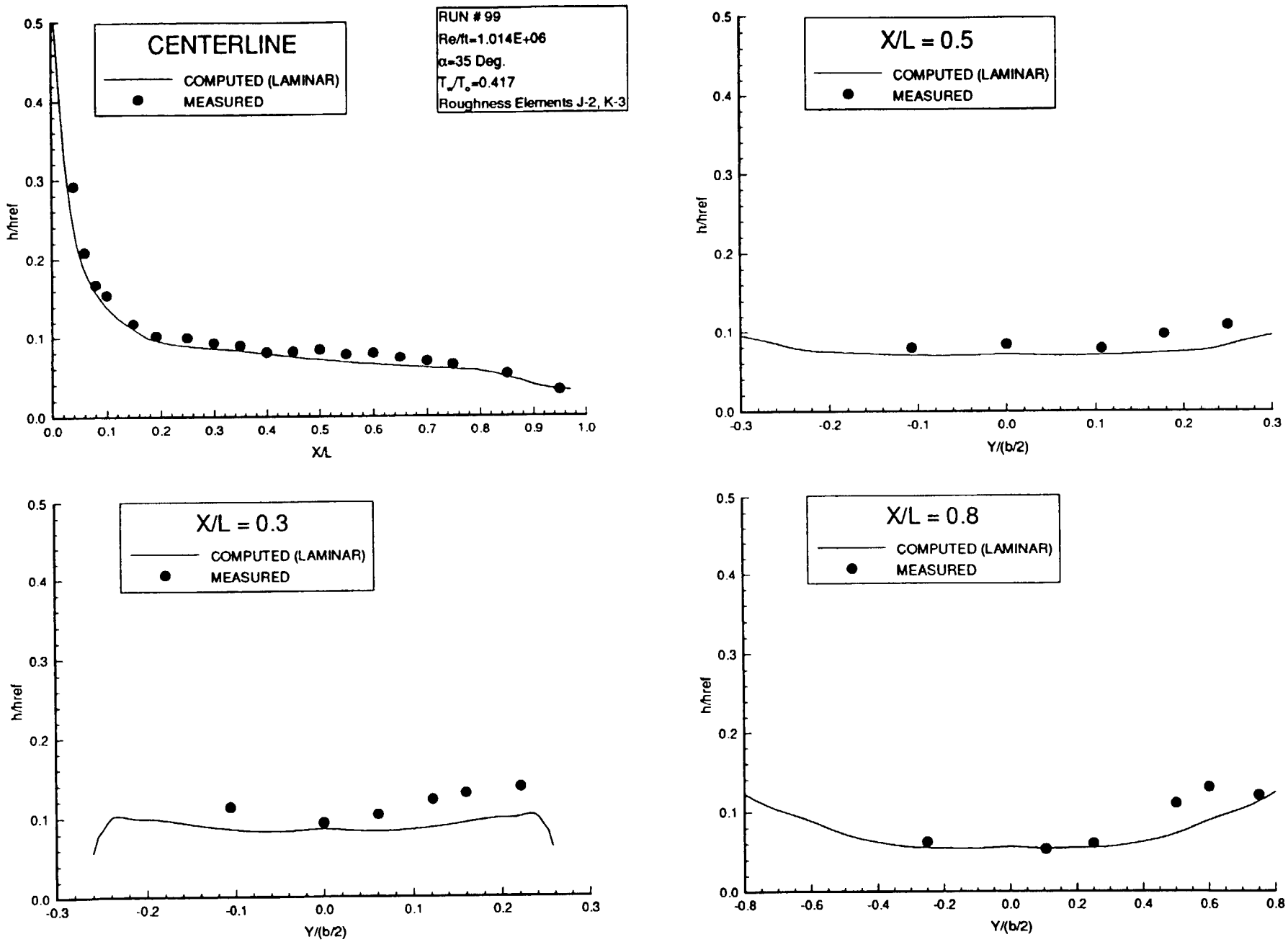


Figure B-94. - Heat Transfer Coefficient Data.

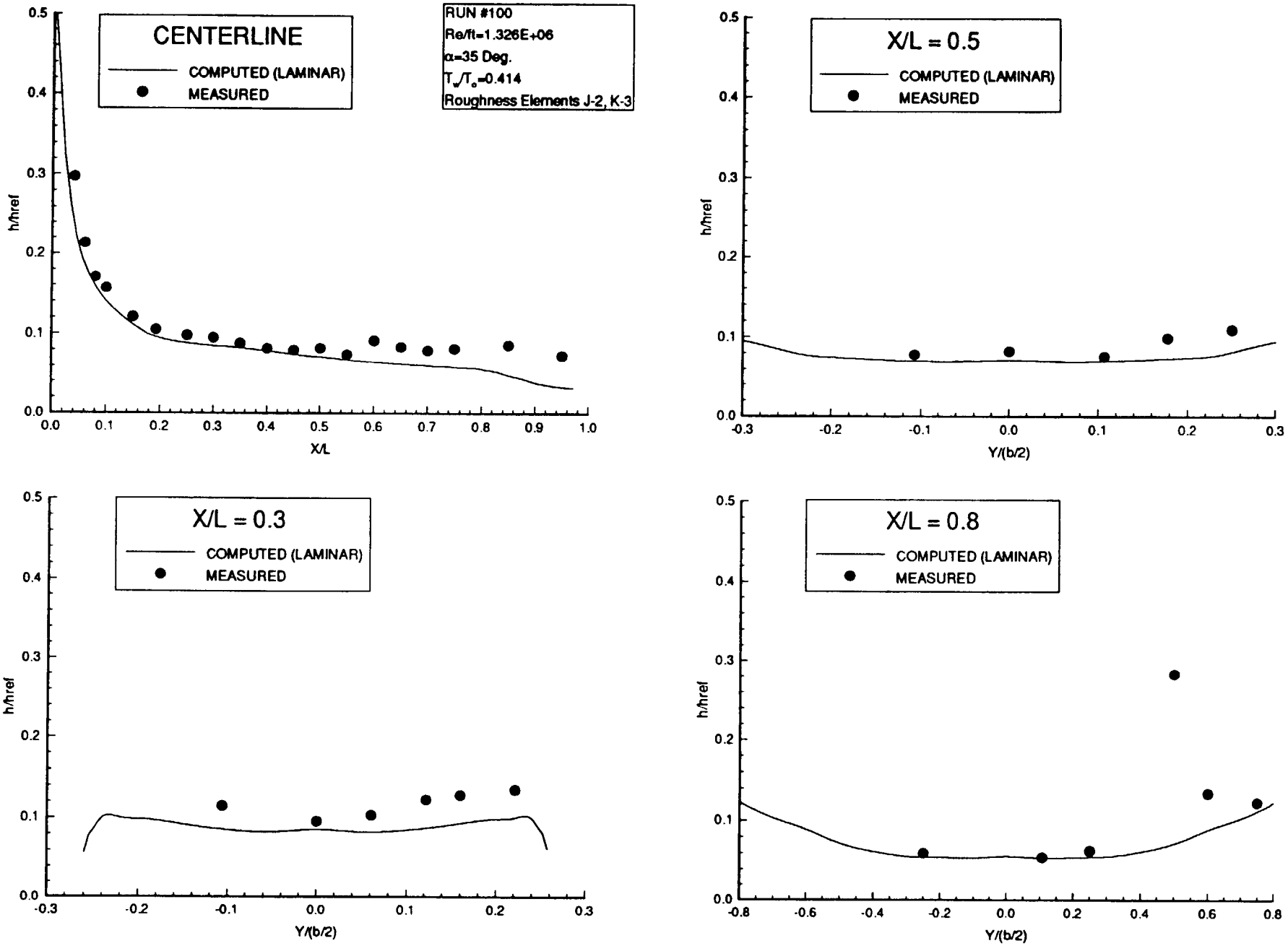


Figure B-95. - Heat Transfer Coefficient Data.

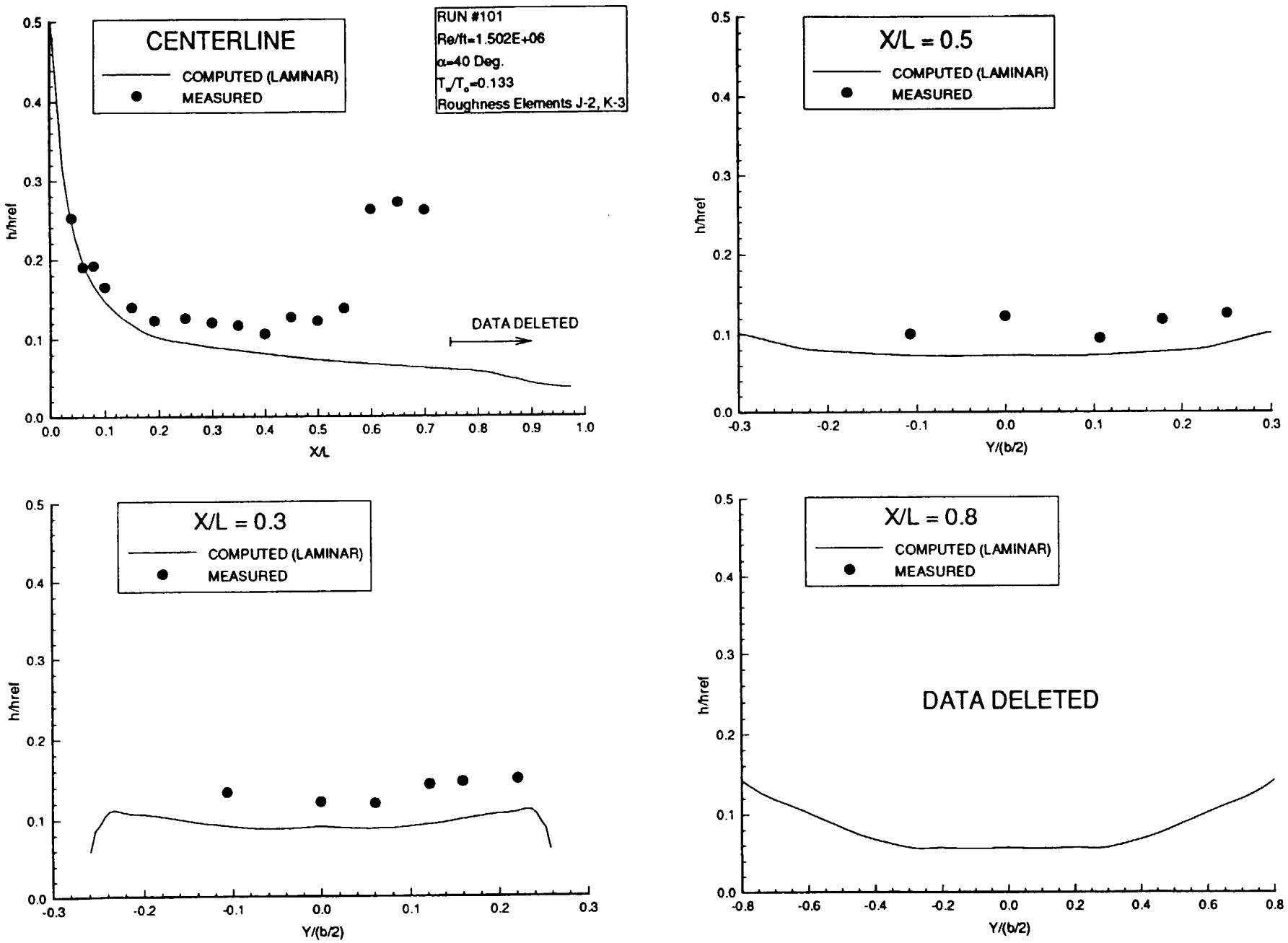


Figure B-96. - Heat Transfer Coefficient Data.

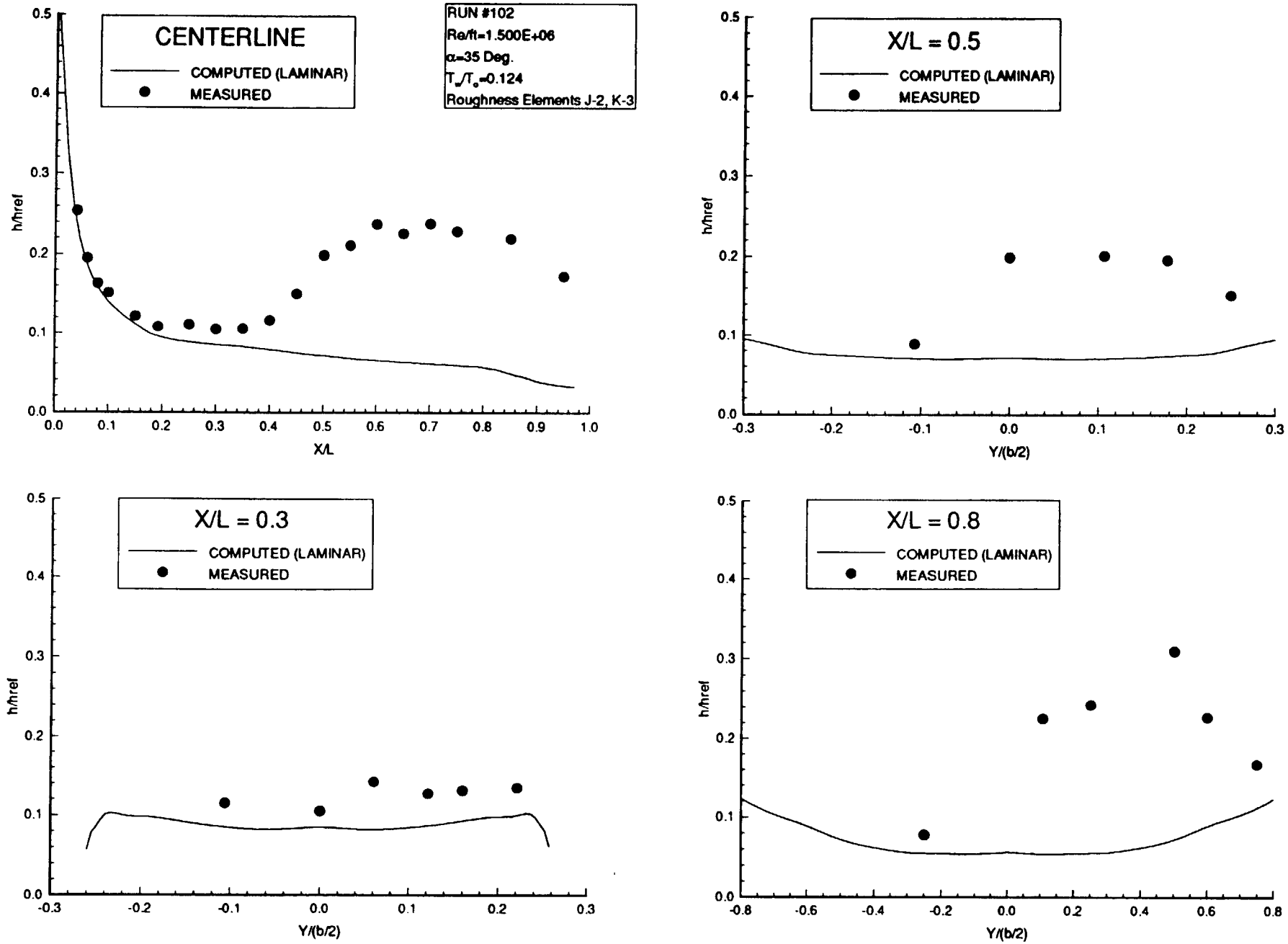


Figure B-97. - Heat Transfer Coefficient Data.

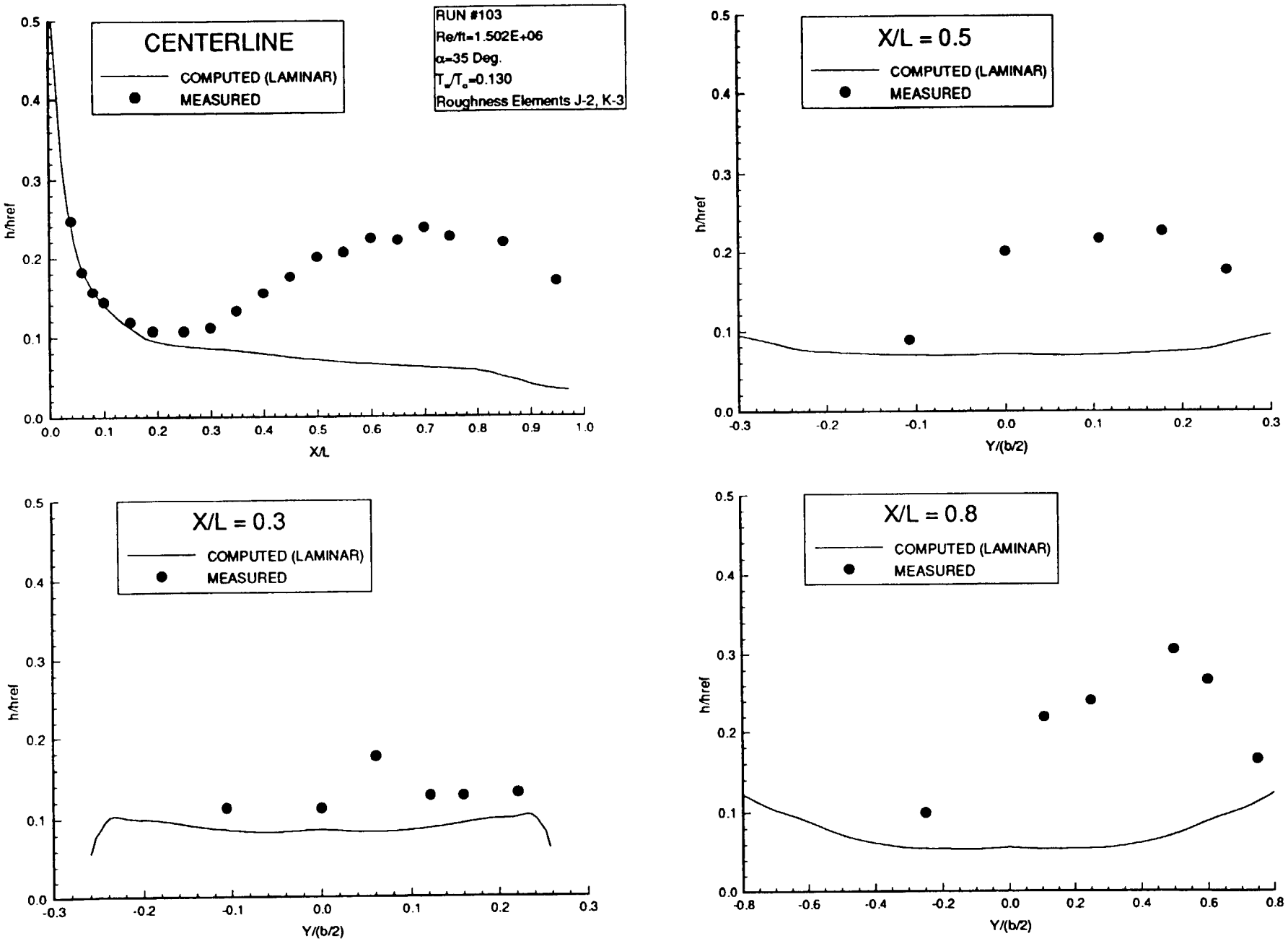


Figure B-98. - Heat Transfer Coefficient Data.

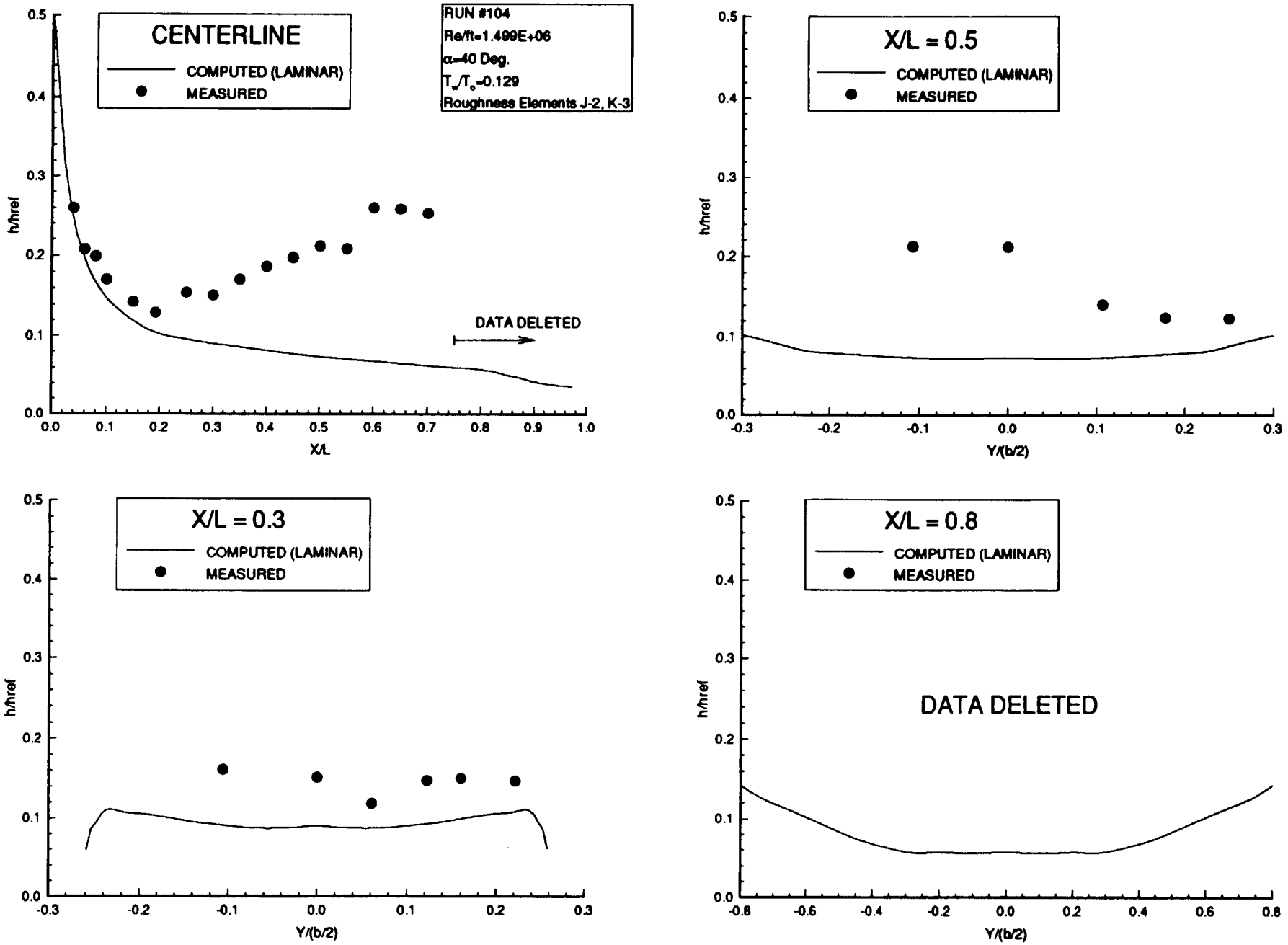


Figure B-99. - Heat Transfer Coefficient Data.

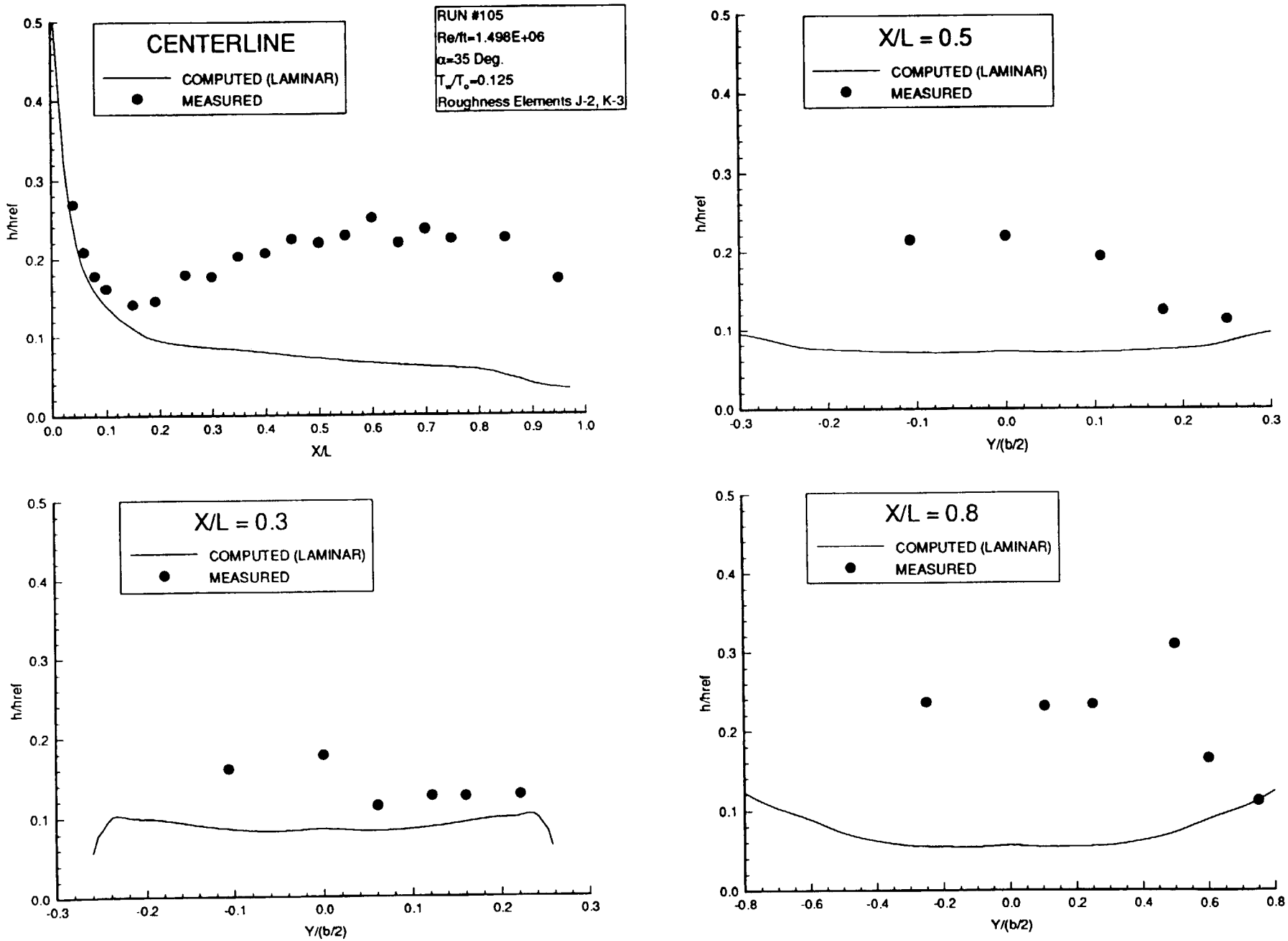


Figure B-100. - Heat Transfer Coefficient Data.

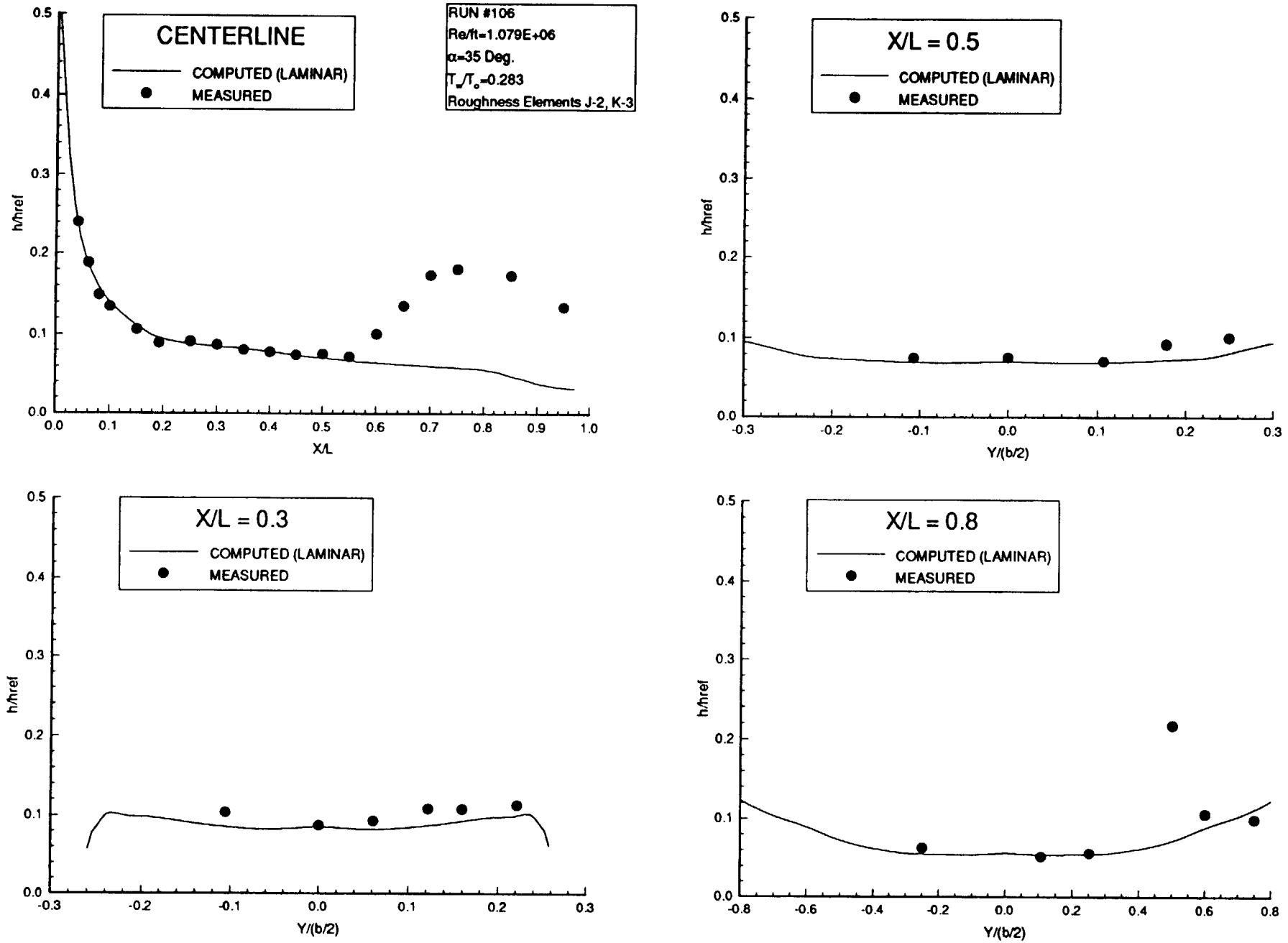


Figure B-101. - Heat Transfer Coefficient Data.

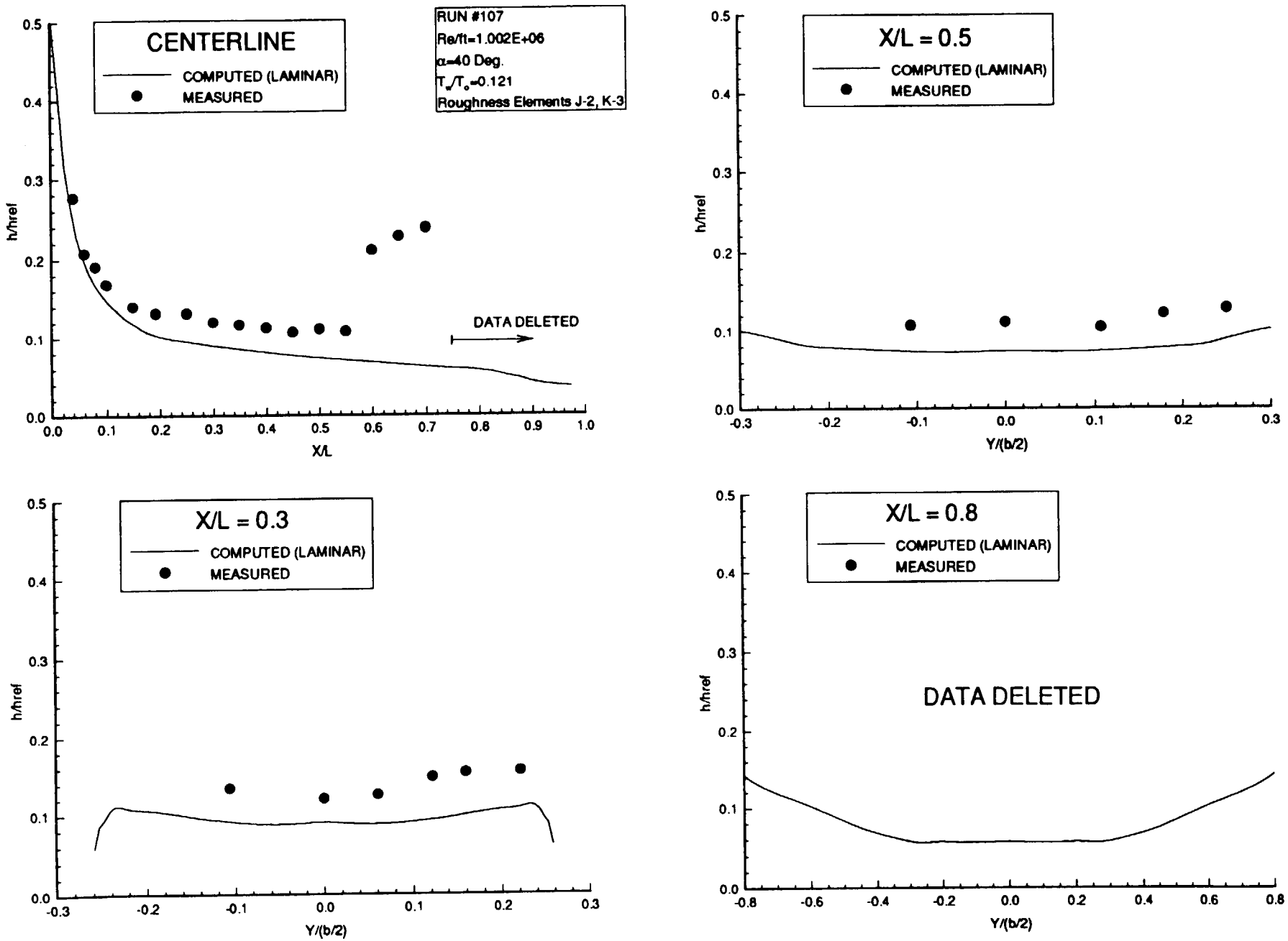


Figure B-102. - Heat Transfer Coefficient Data.

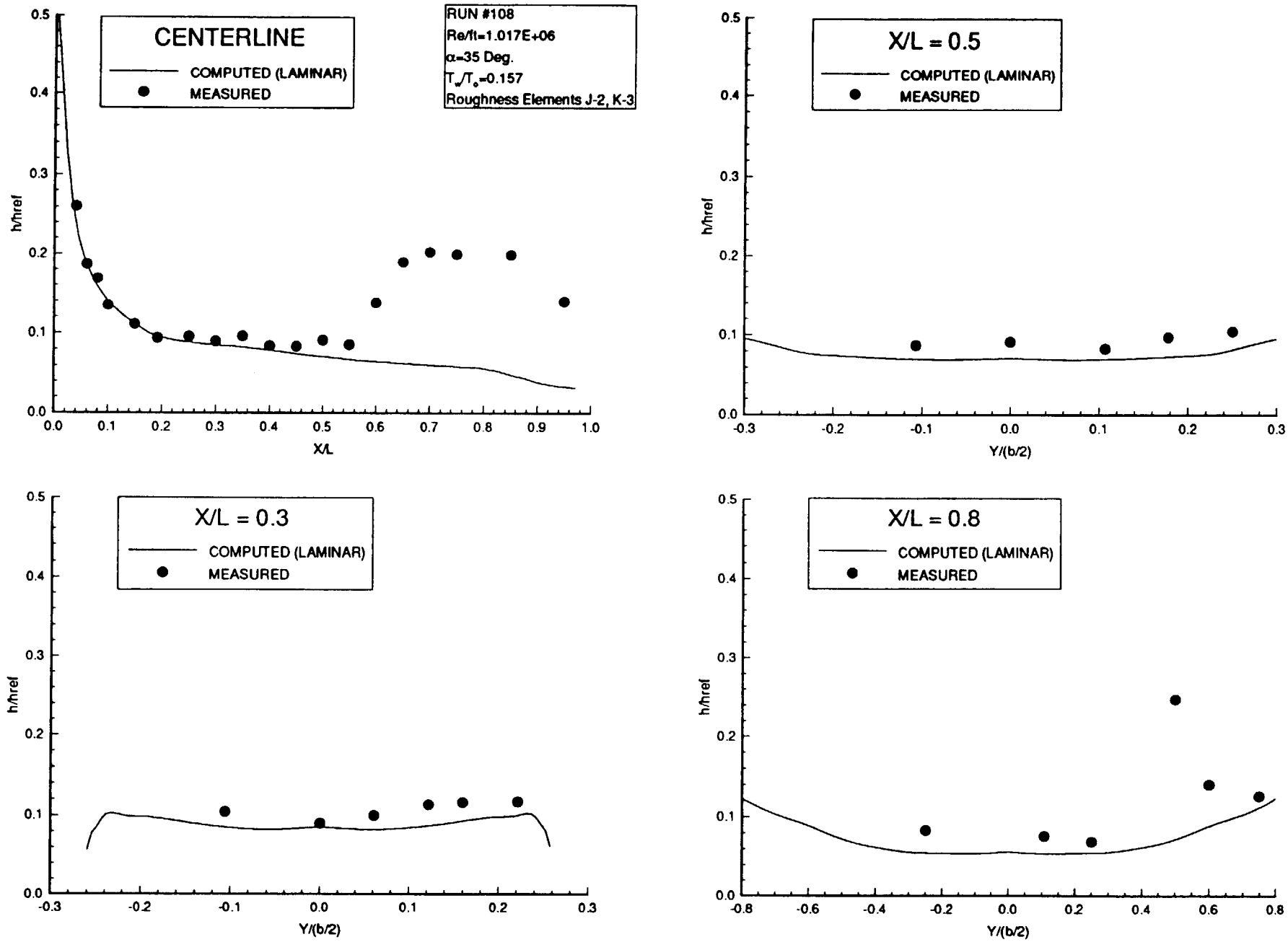


Figure B-103. - Heat Transfer Coefficient Data.

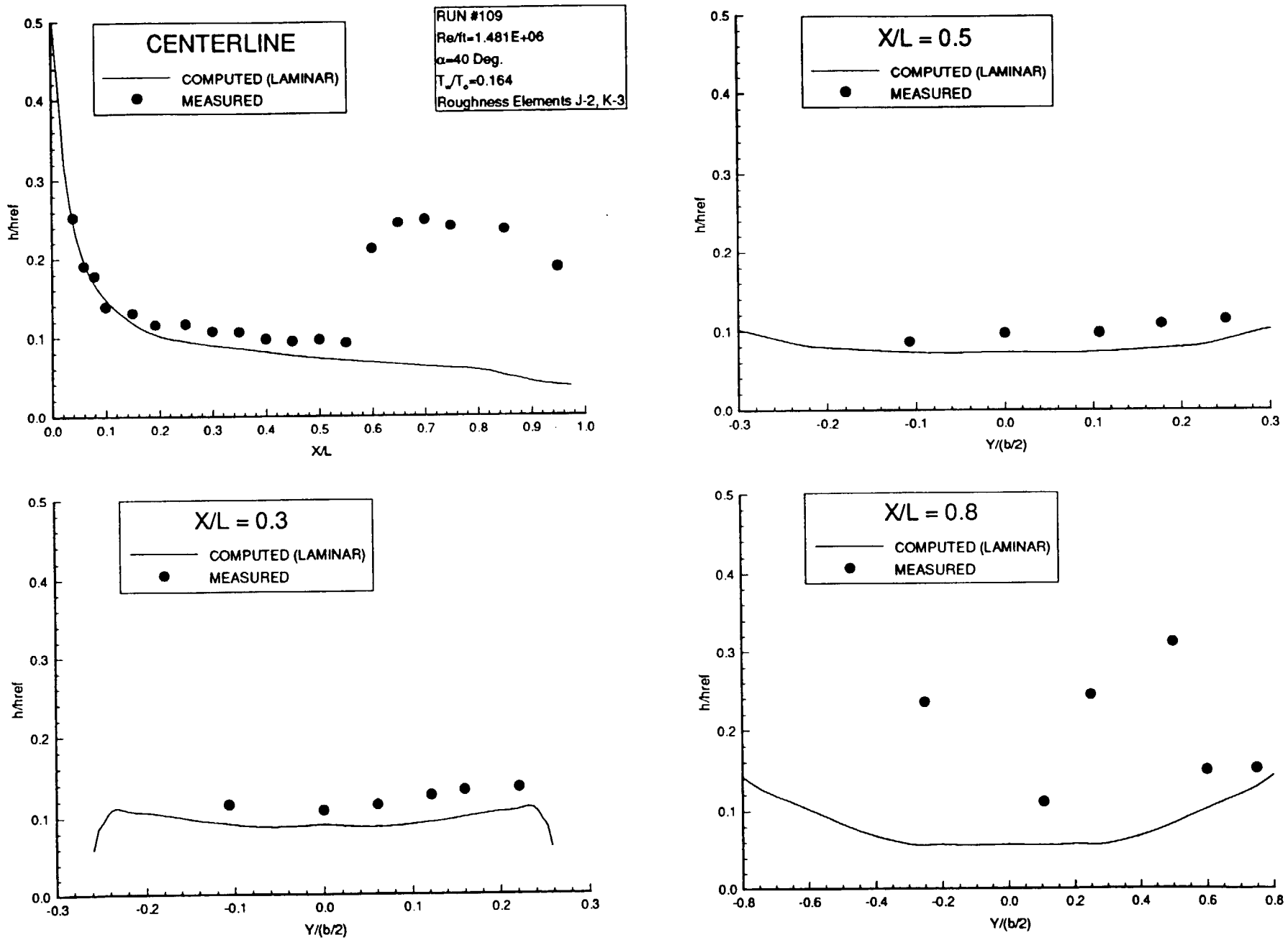


Figure B-104. - Heat Transfer Coefficient Data.

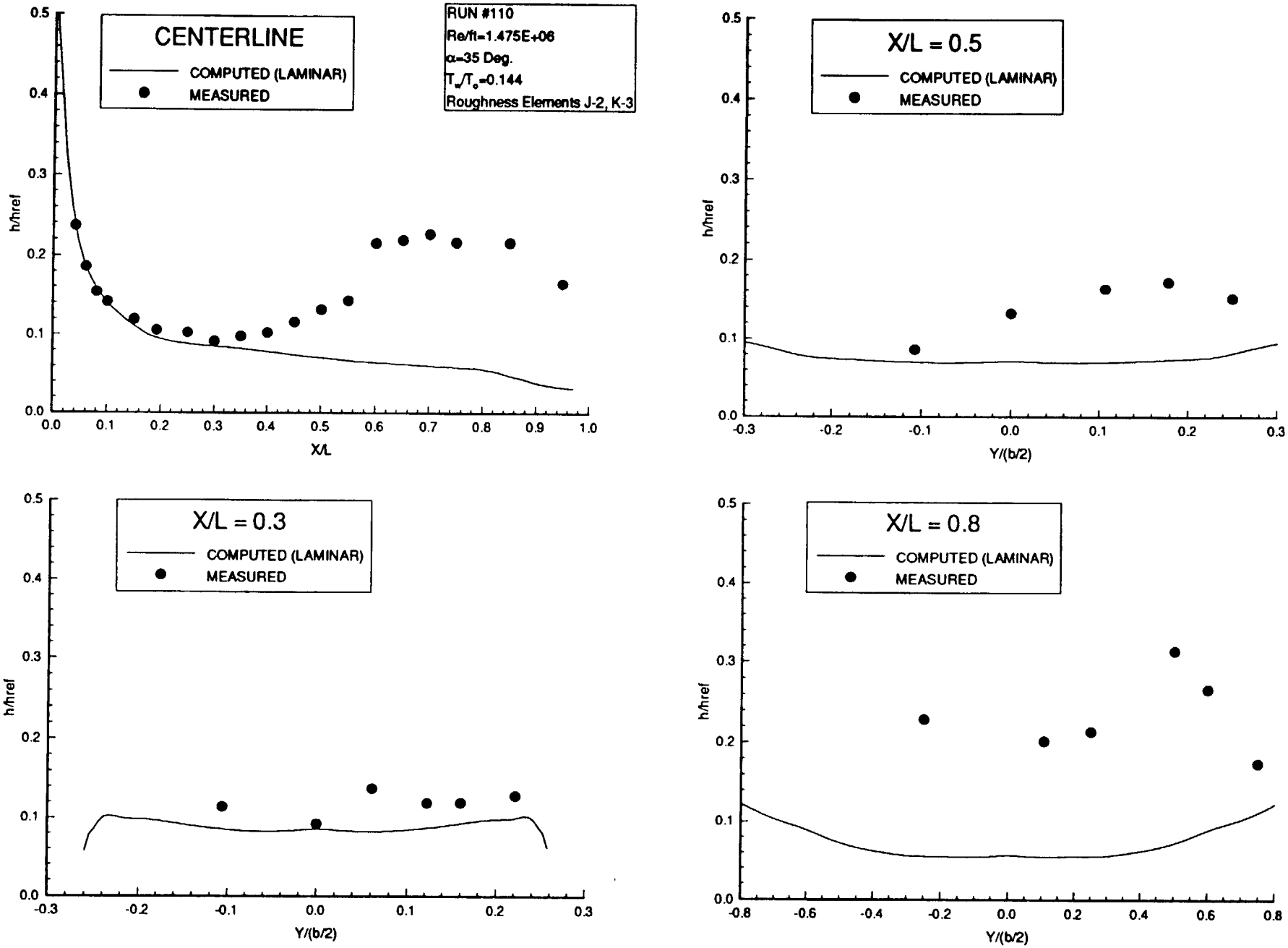


Figure B-105. - Heat Transfer Coefficient Data.

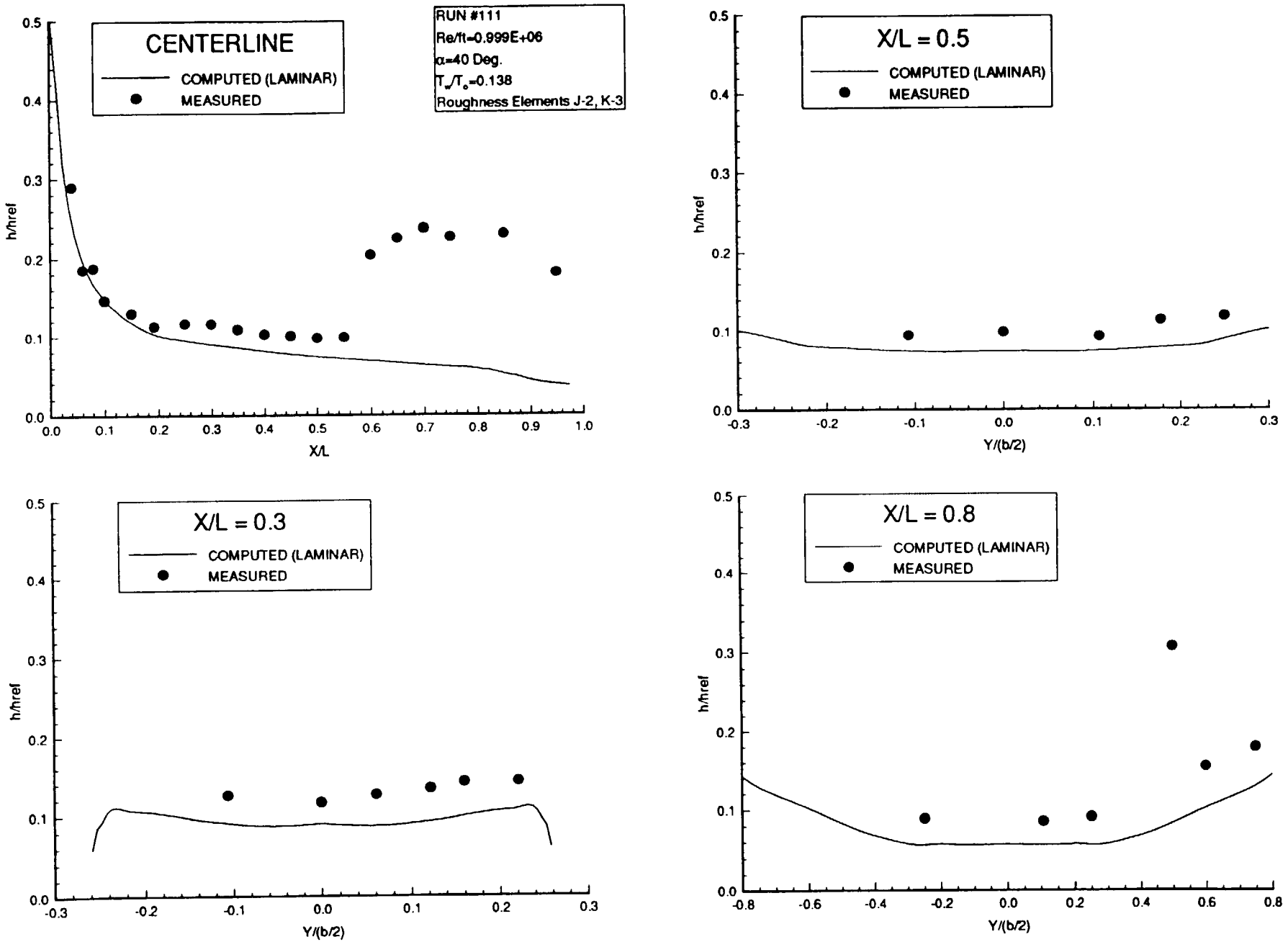


Figure B-106. - Heat Transfer Coefficient Data.

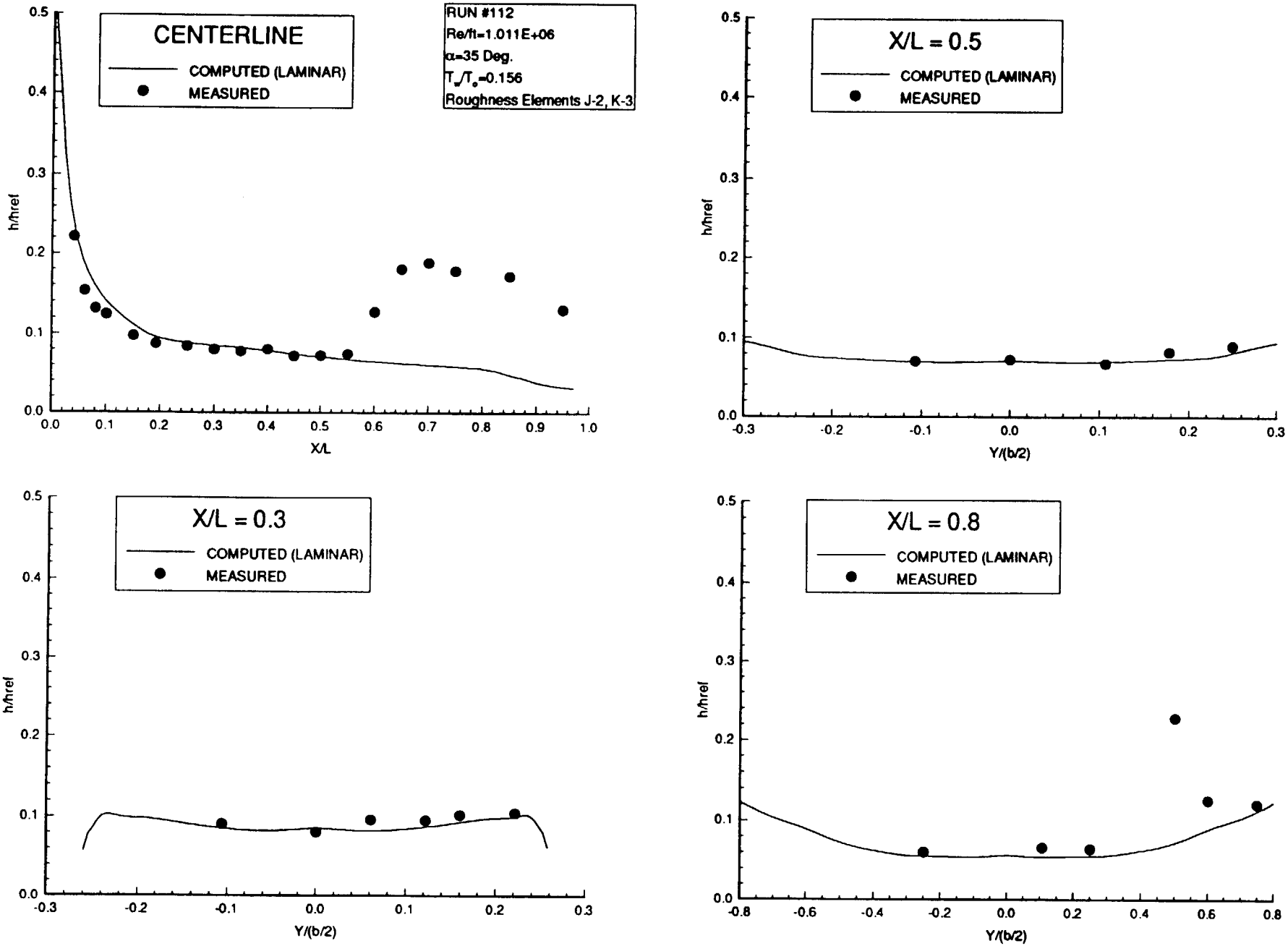


Figure B-107. - Heat Transfer Coefficient Data.

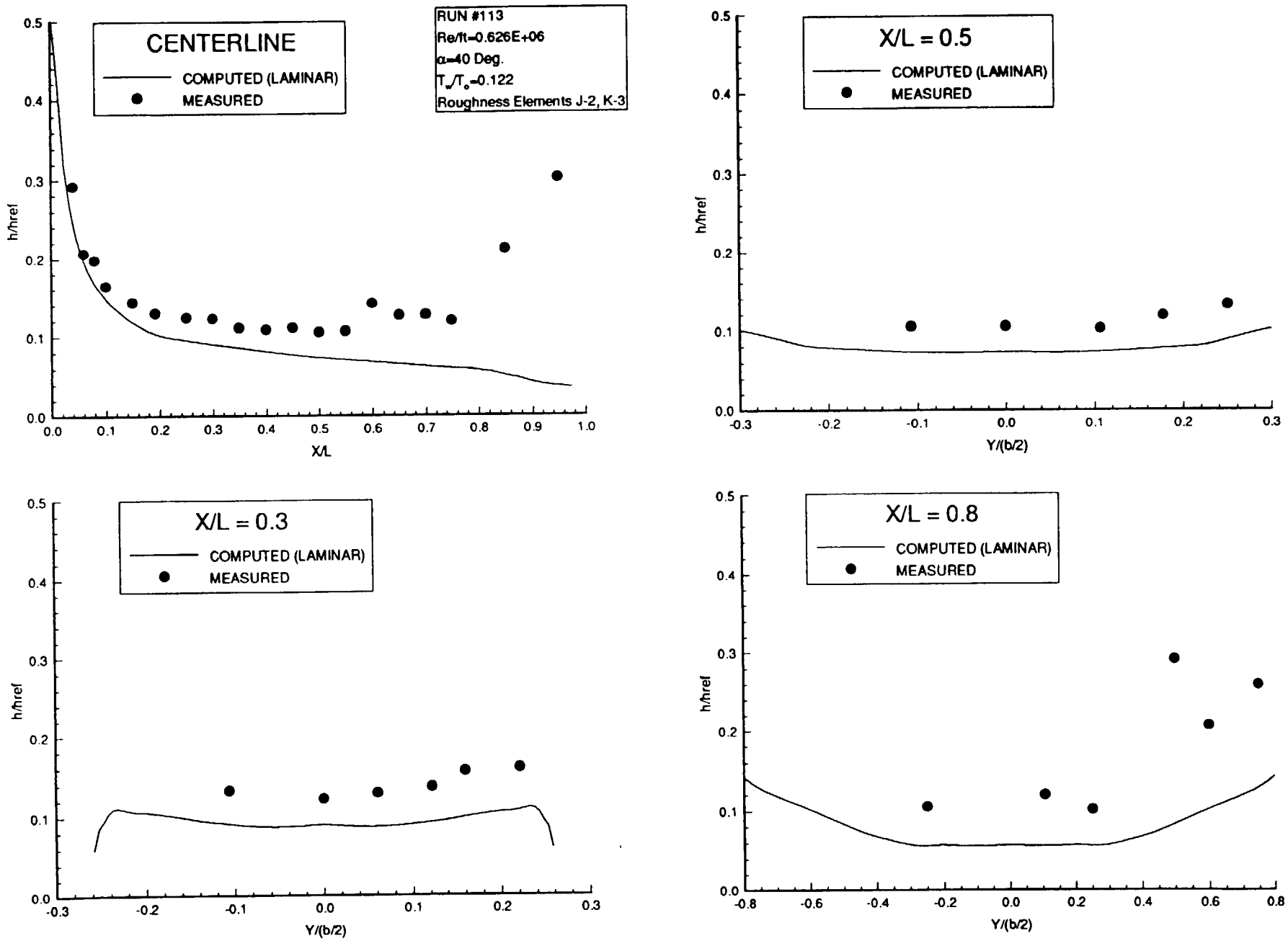


Figure B-108. - Heat Transfer Coefficient Data.

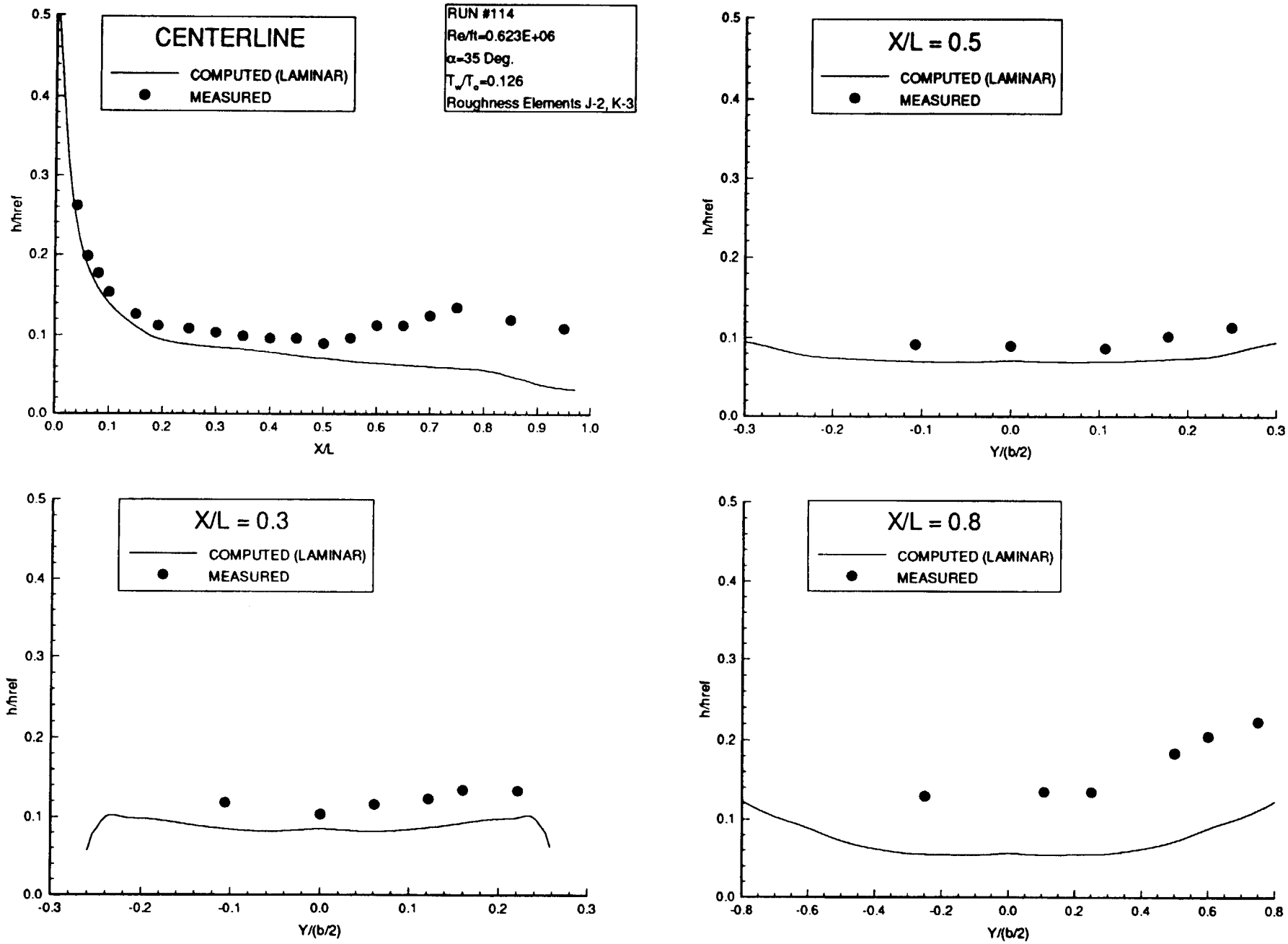


Figure B-109. - Heat Transfer Coefficient Data.

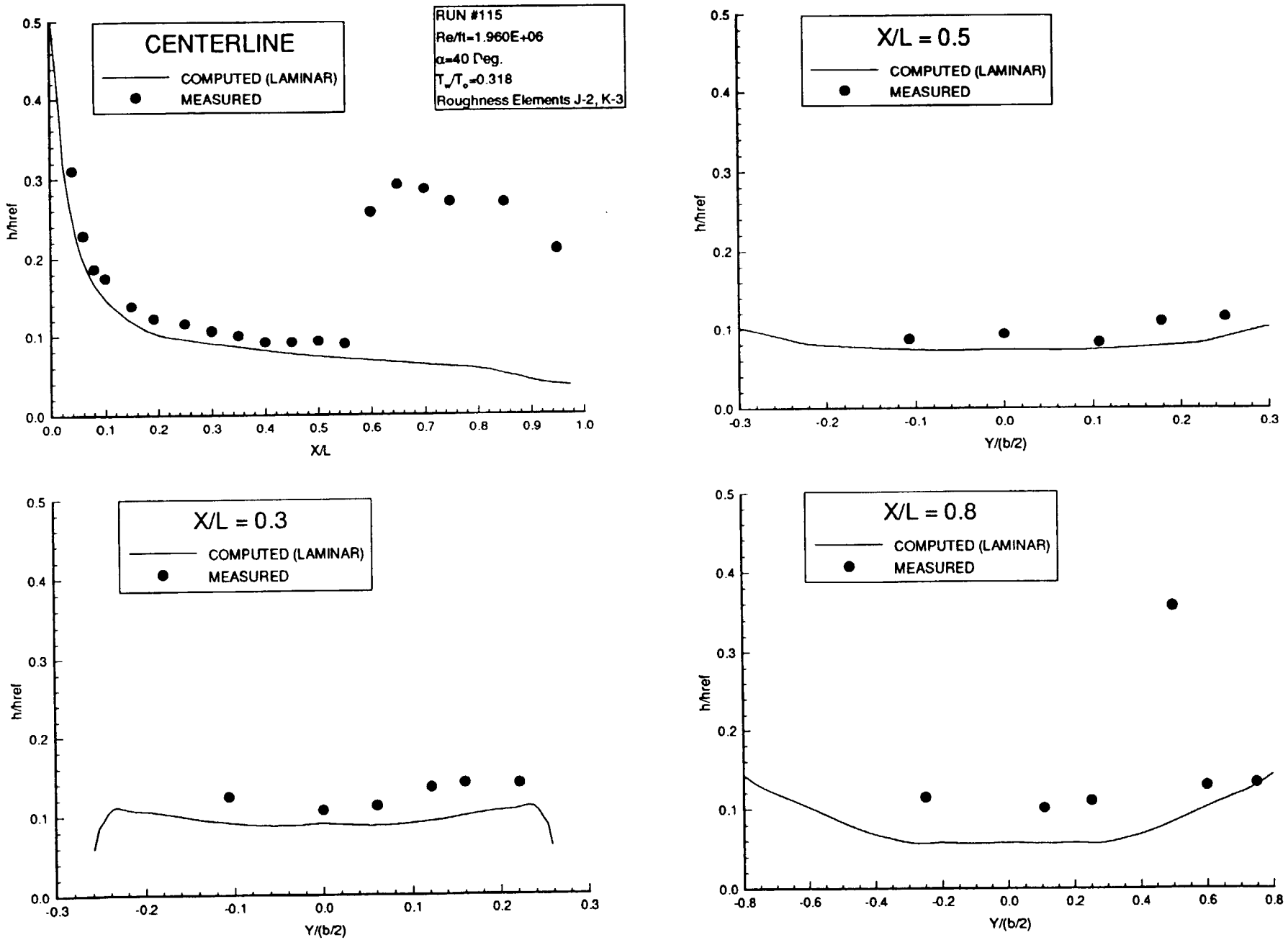


Figure B-110. - Heat Transfer Coefficient Data.

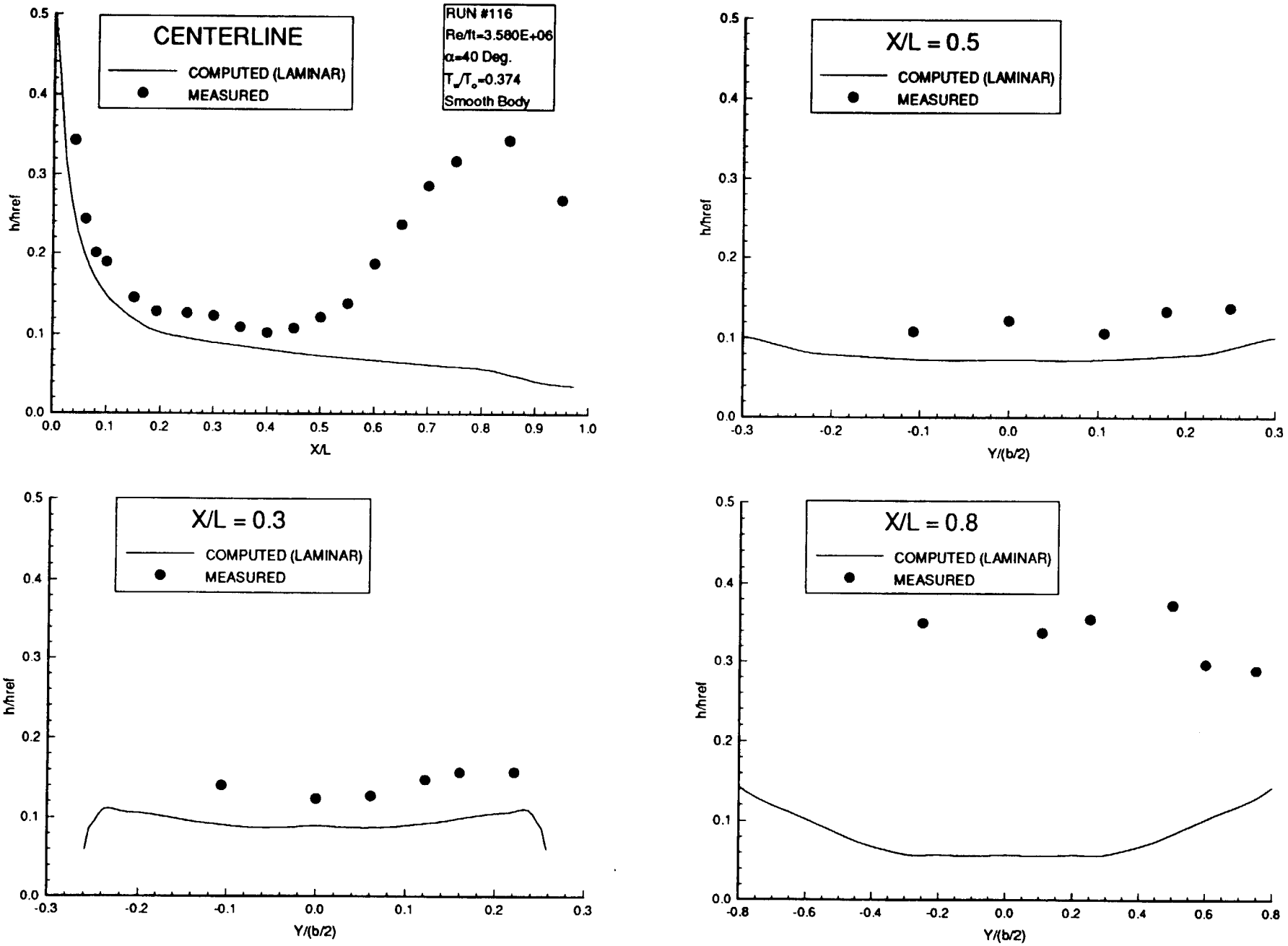


Figure B-111. - Heat Transfer Coefficient Data.

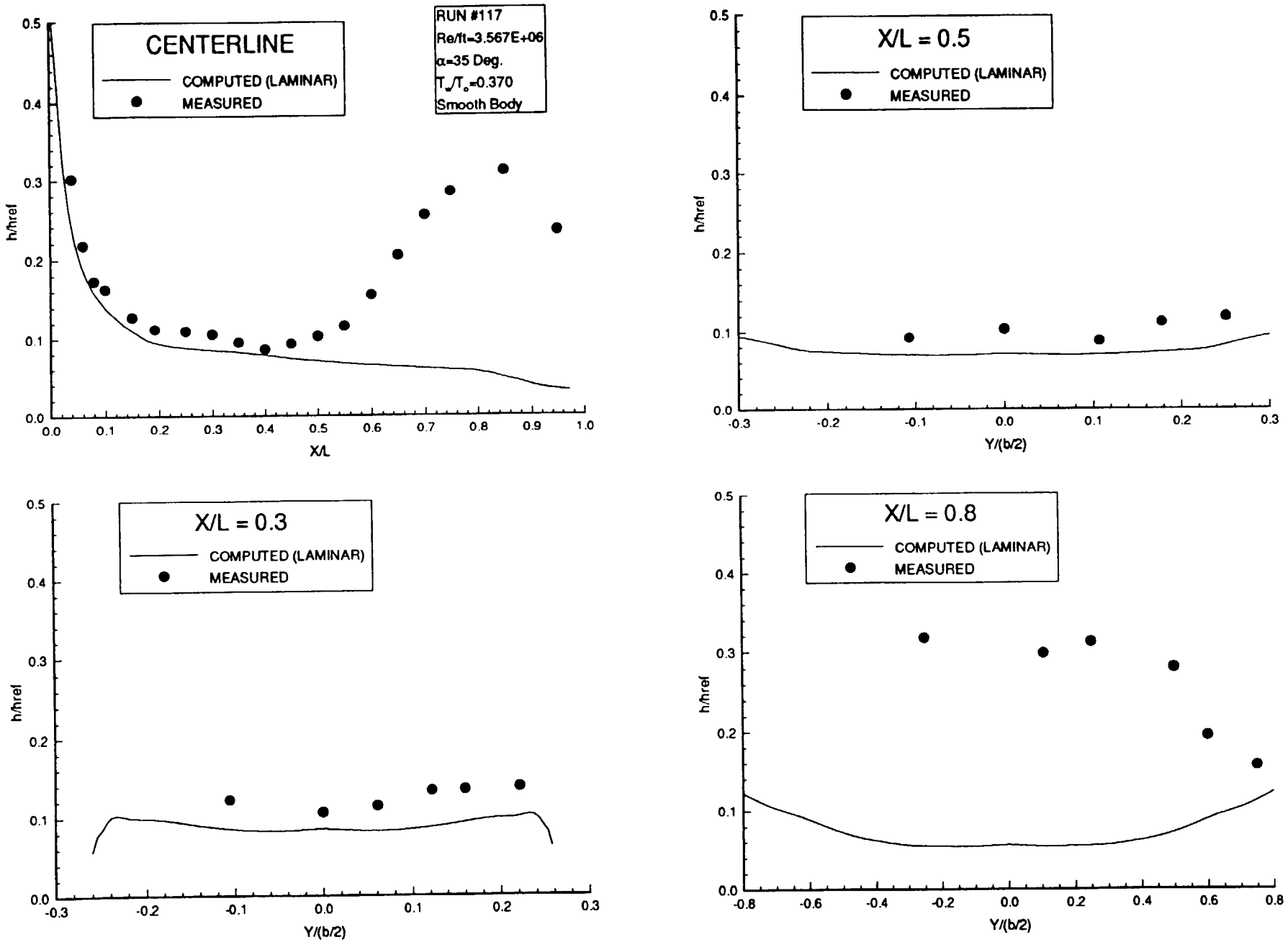


Figure B-112. - Heat Transfer Coefficient Data.

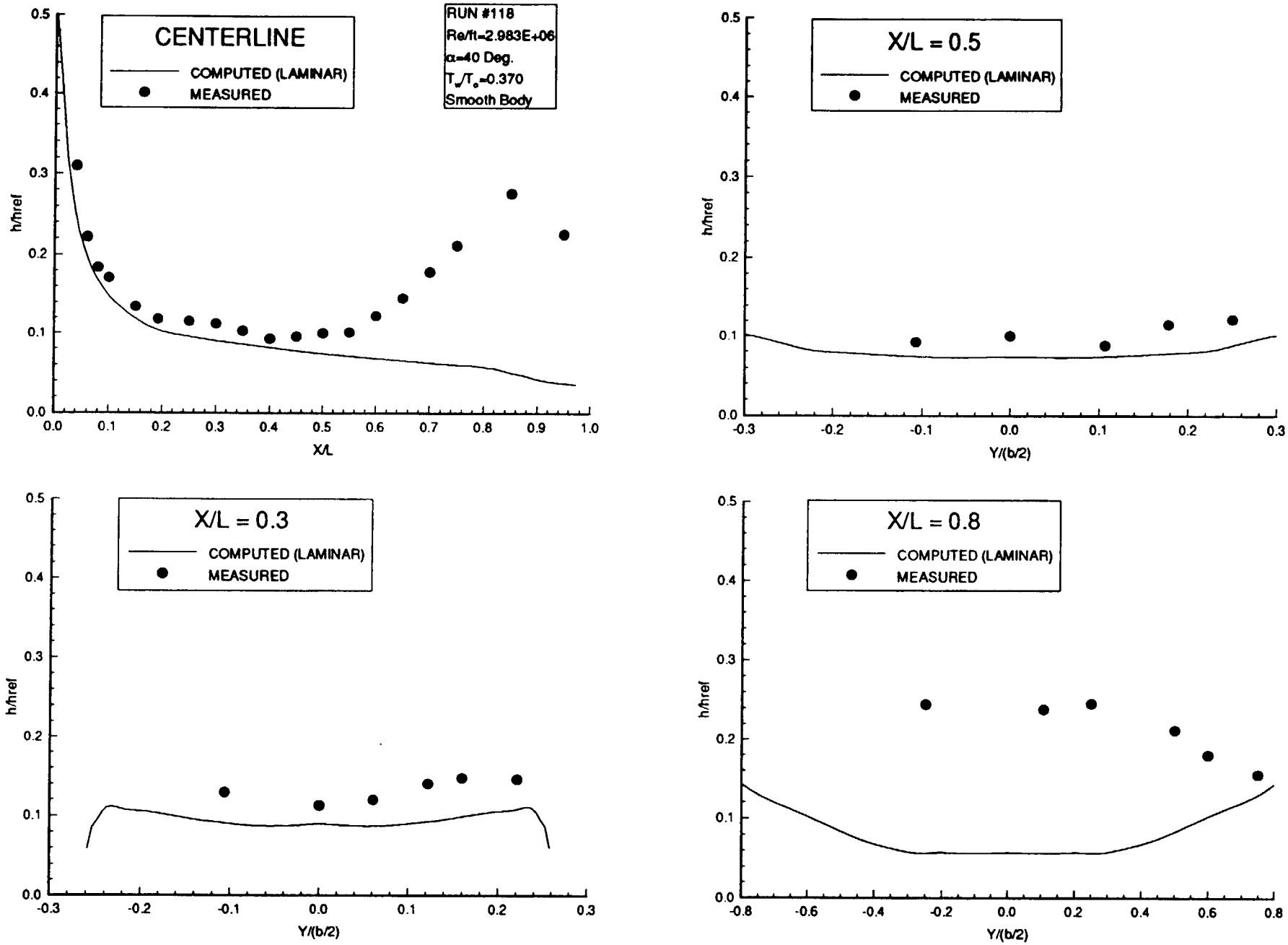


Figure B-113. - Heat Transfer Coefficient Data.

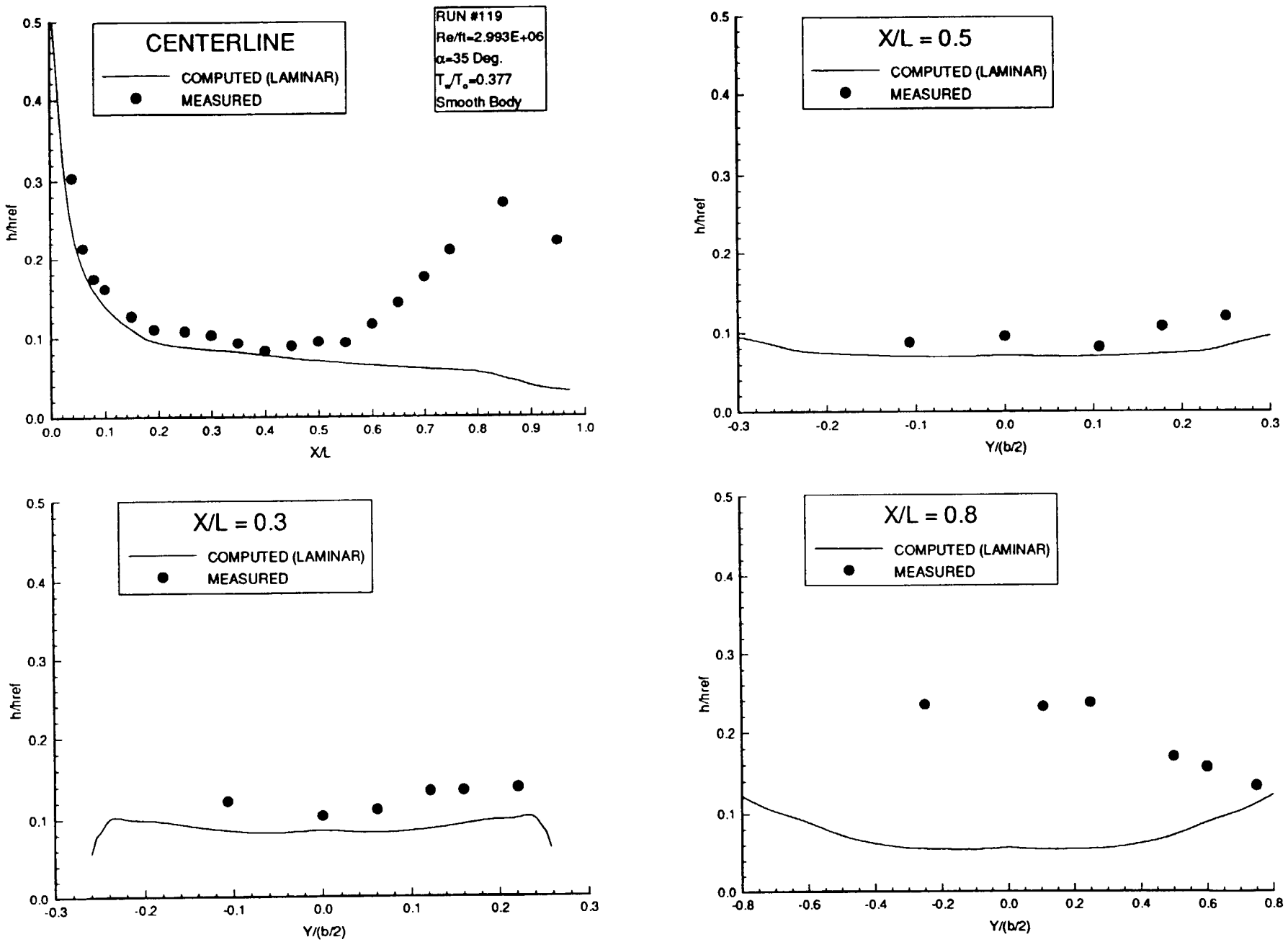


Figure B-114. - Heat Transfer Coefficient Data.

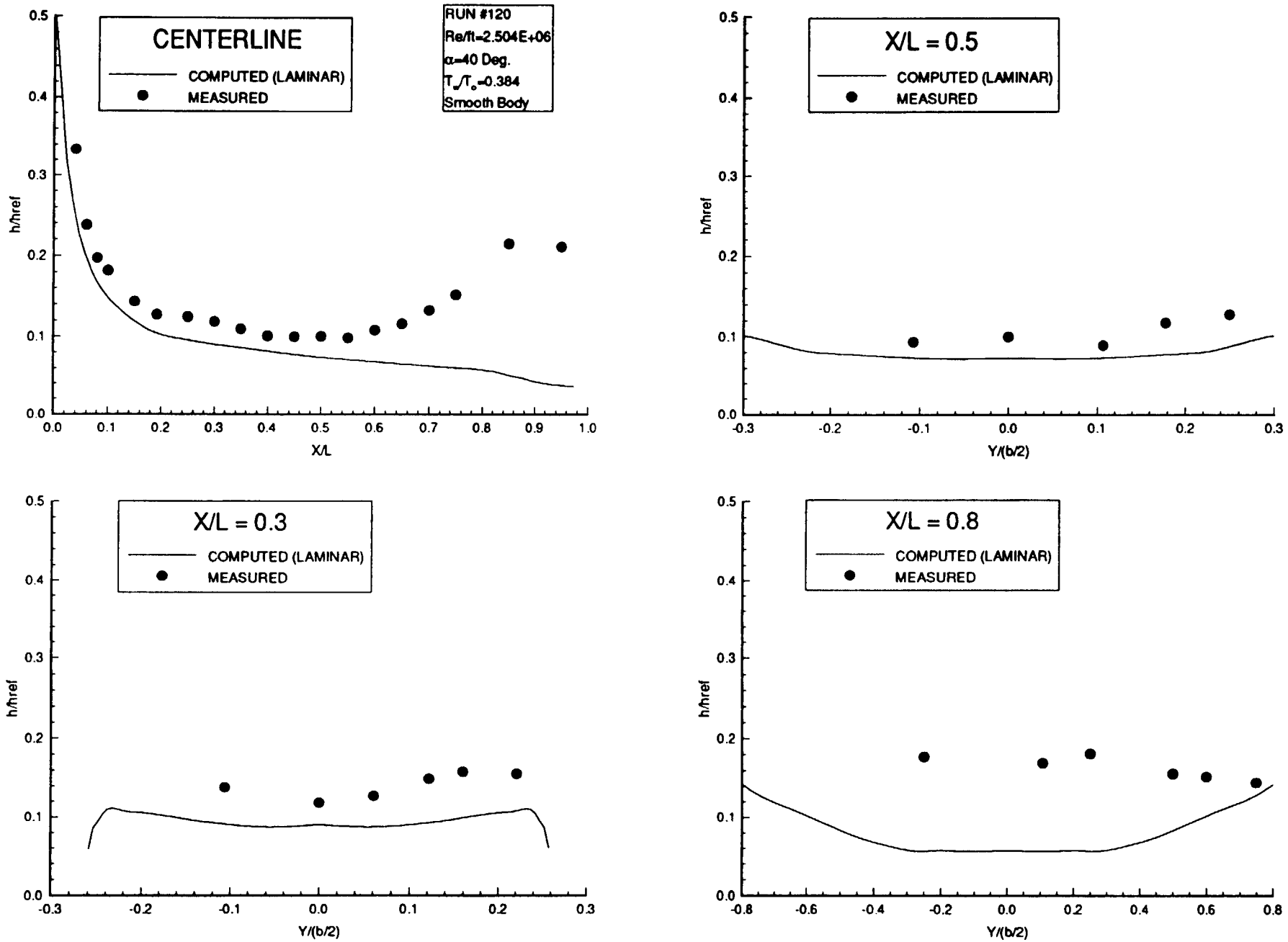


Figure B-115. - Heat Transfer Coefficient Data.

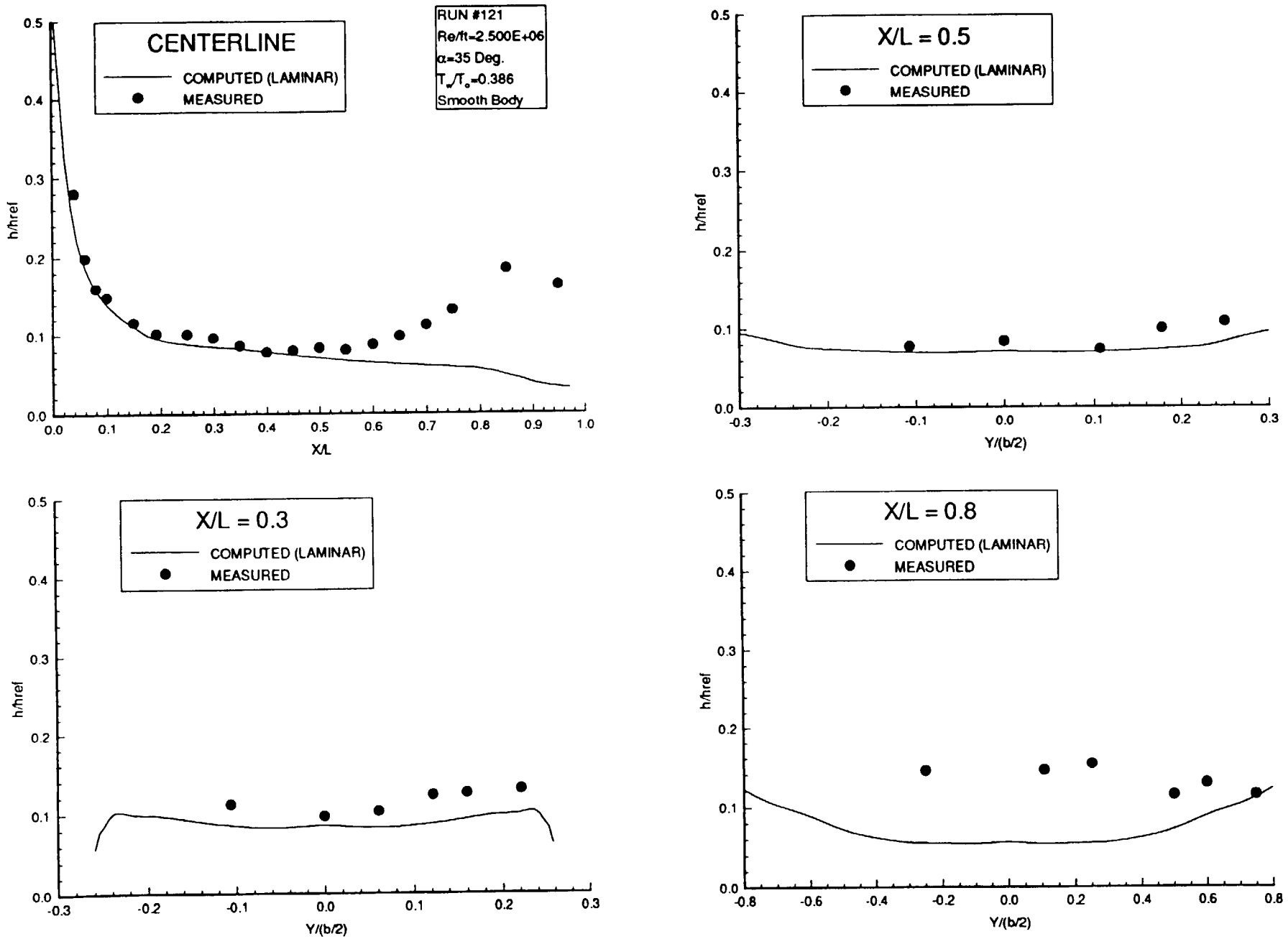


Figure B-116. - Heat Transfer Coefficient Data.

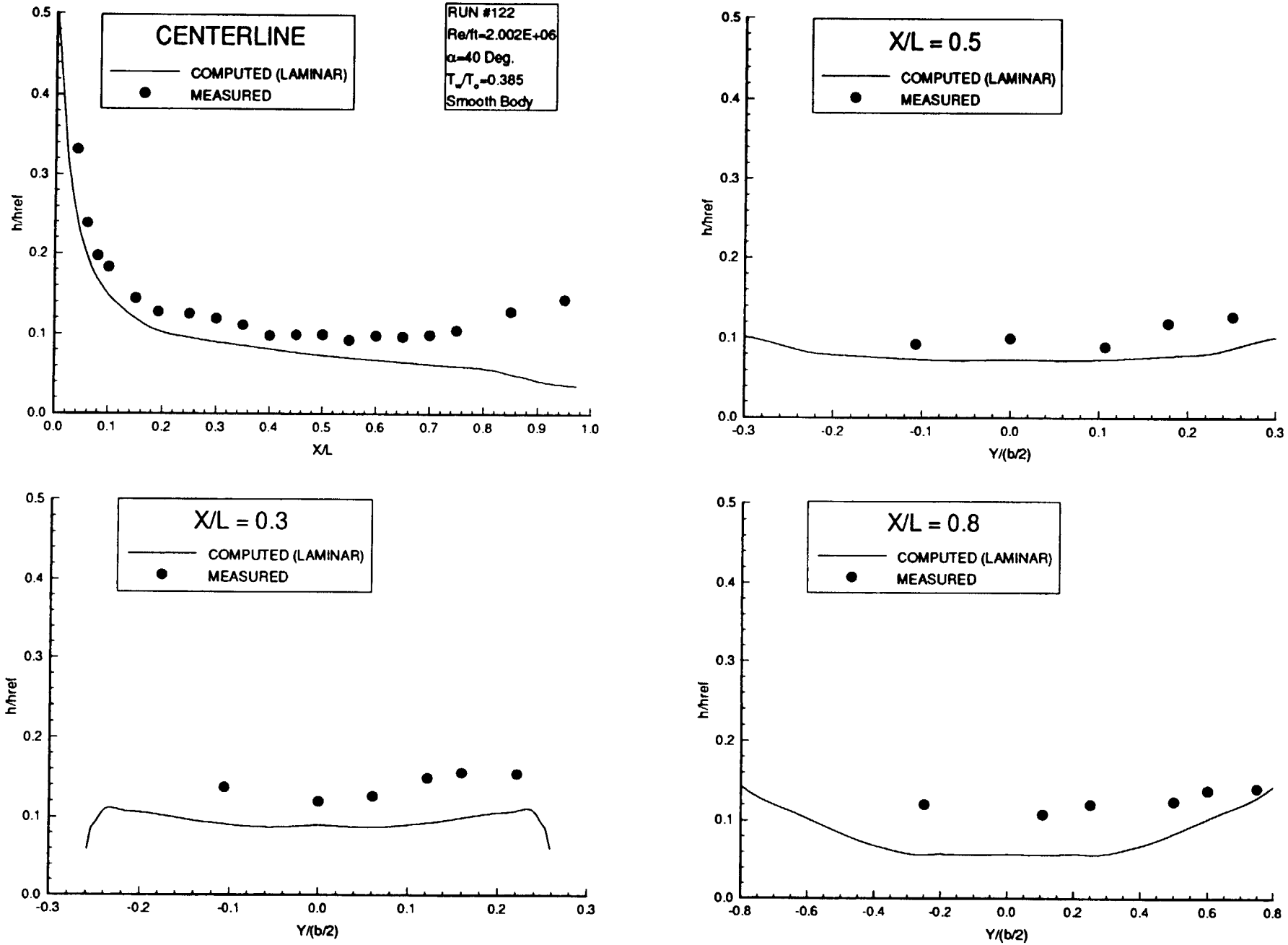


Figure B-117. - Heat Transfer Coefficient Data.

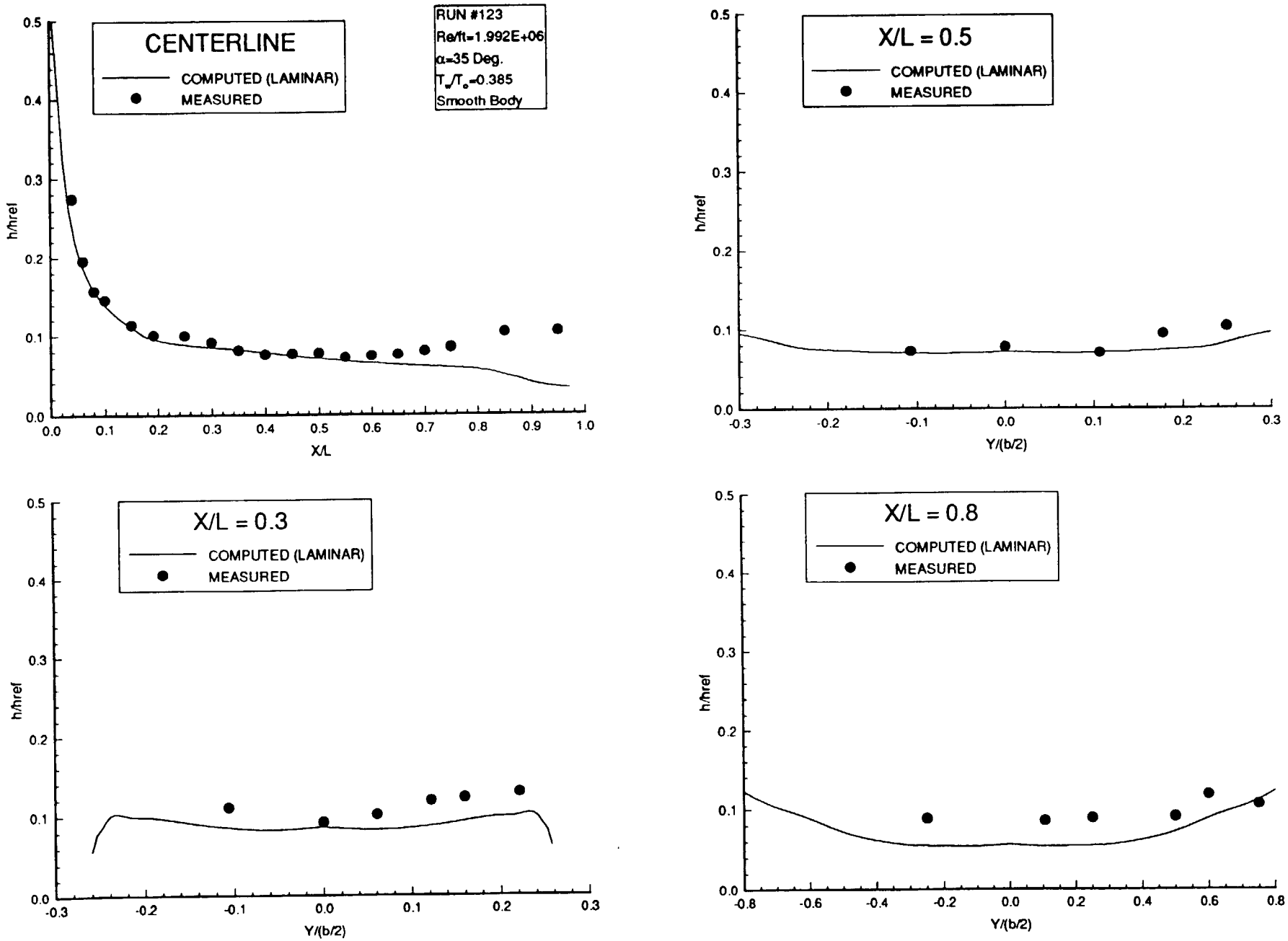


Figure B-118. - Heat Transfer Coefficient Data.

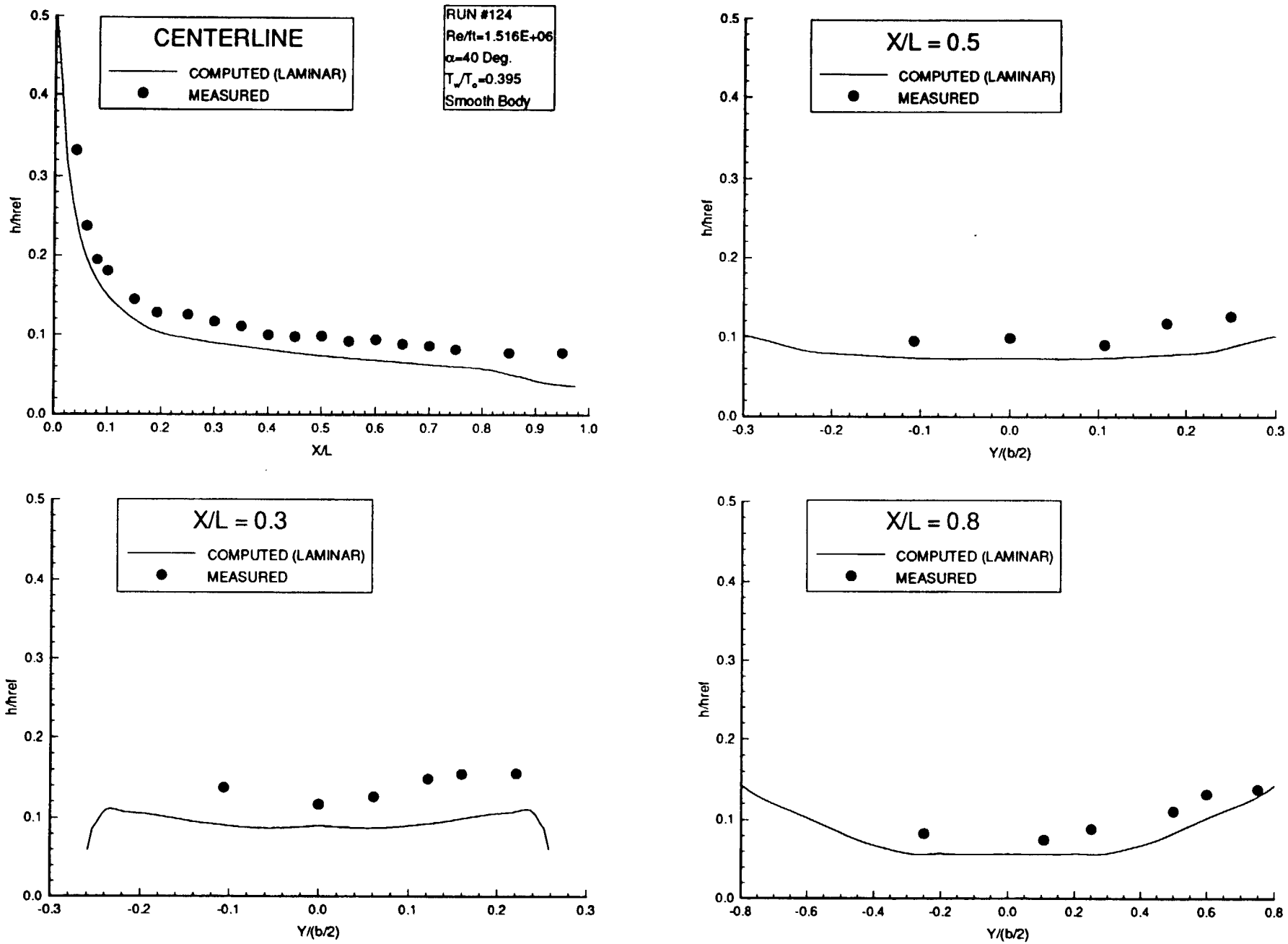


Figure B-119. - Heat Transfer Coefficient Data.

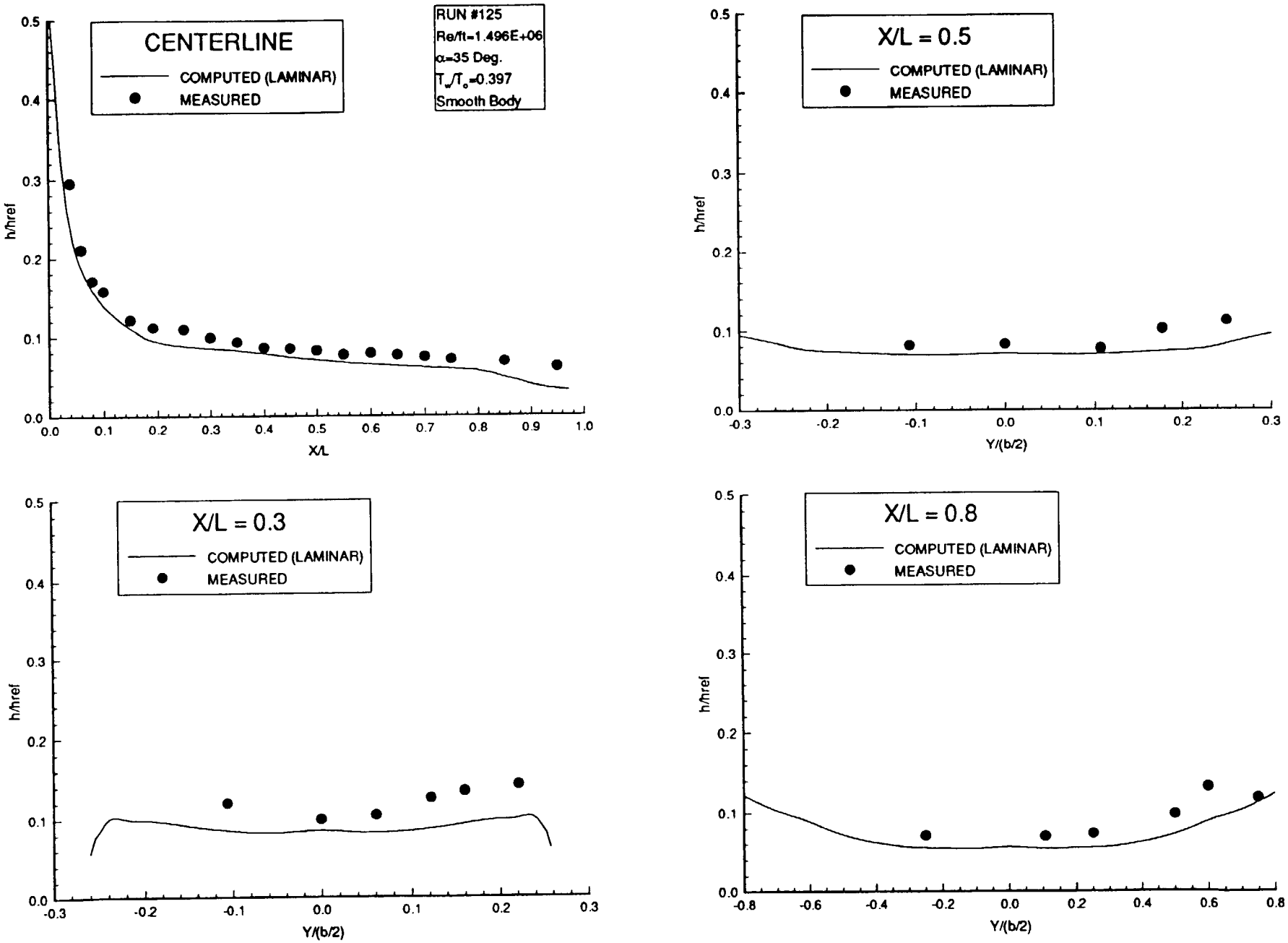


Figure B-120. - Heat Transfer Coefficient Data.

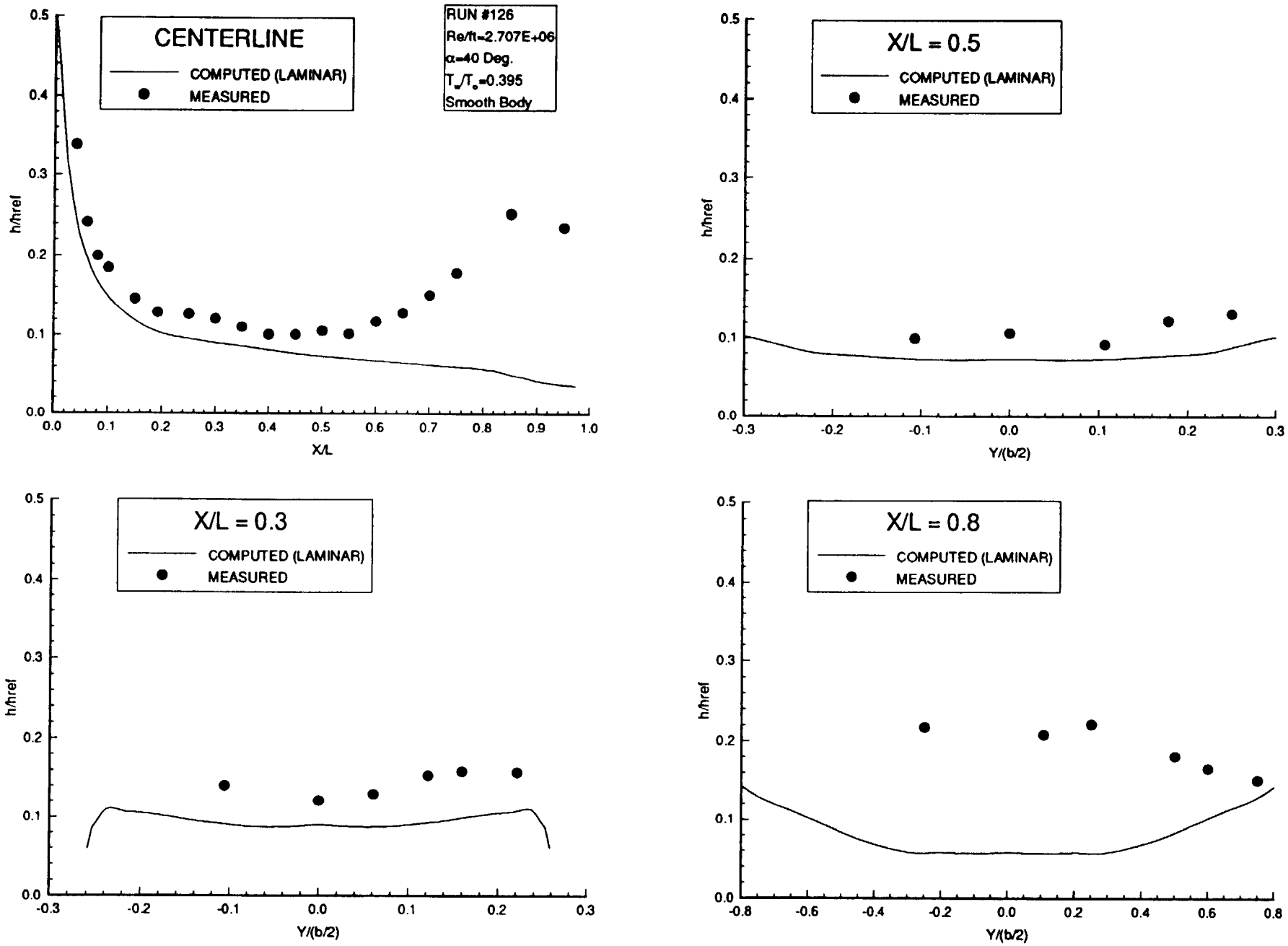


Figure B-121. - Heat Transfer Coefficient Data.

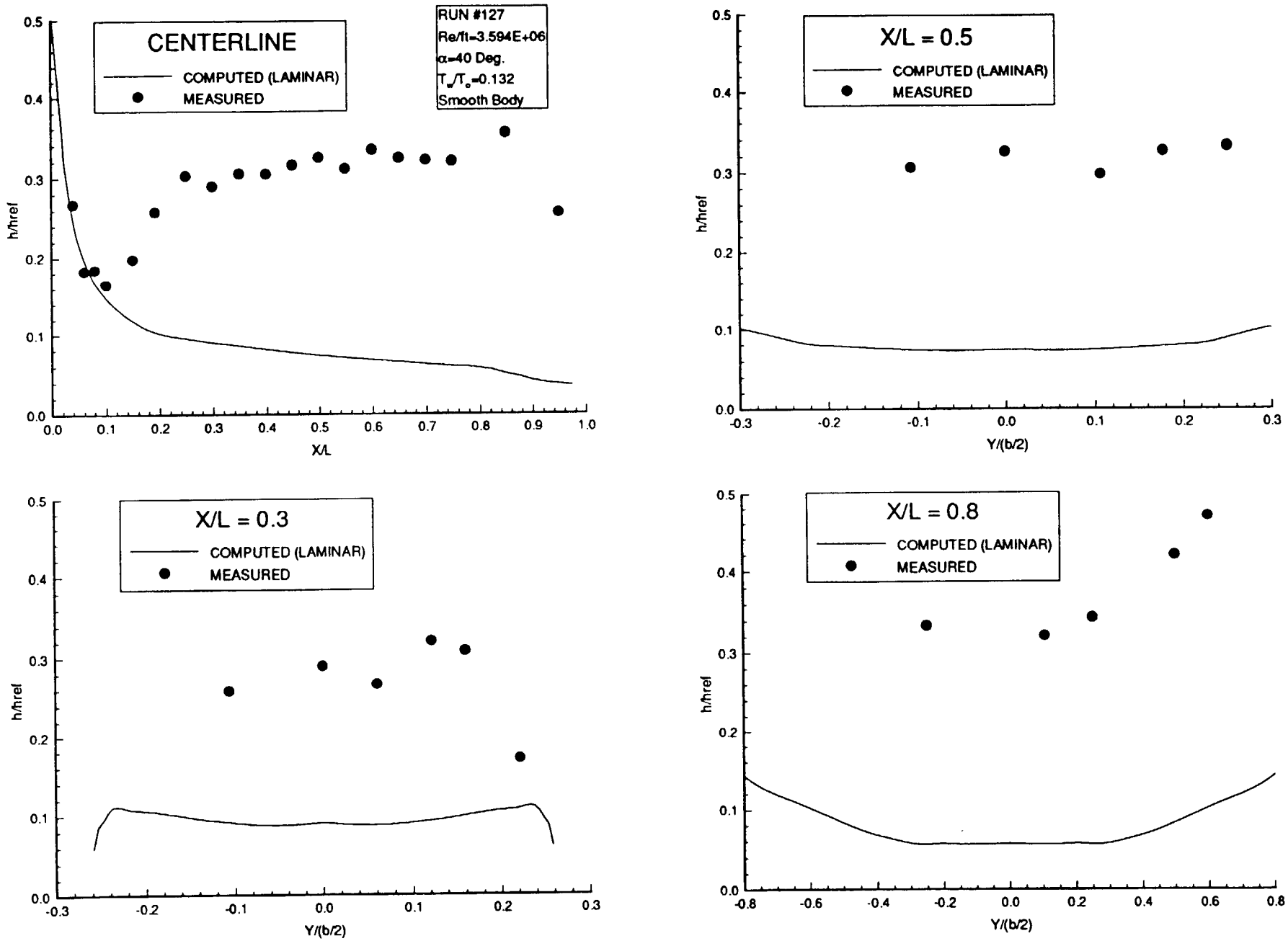


Figure B-122. - Heat Transfer Coefficient Data.

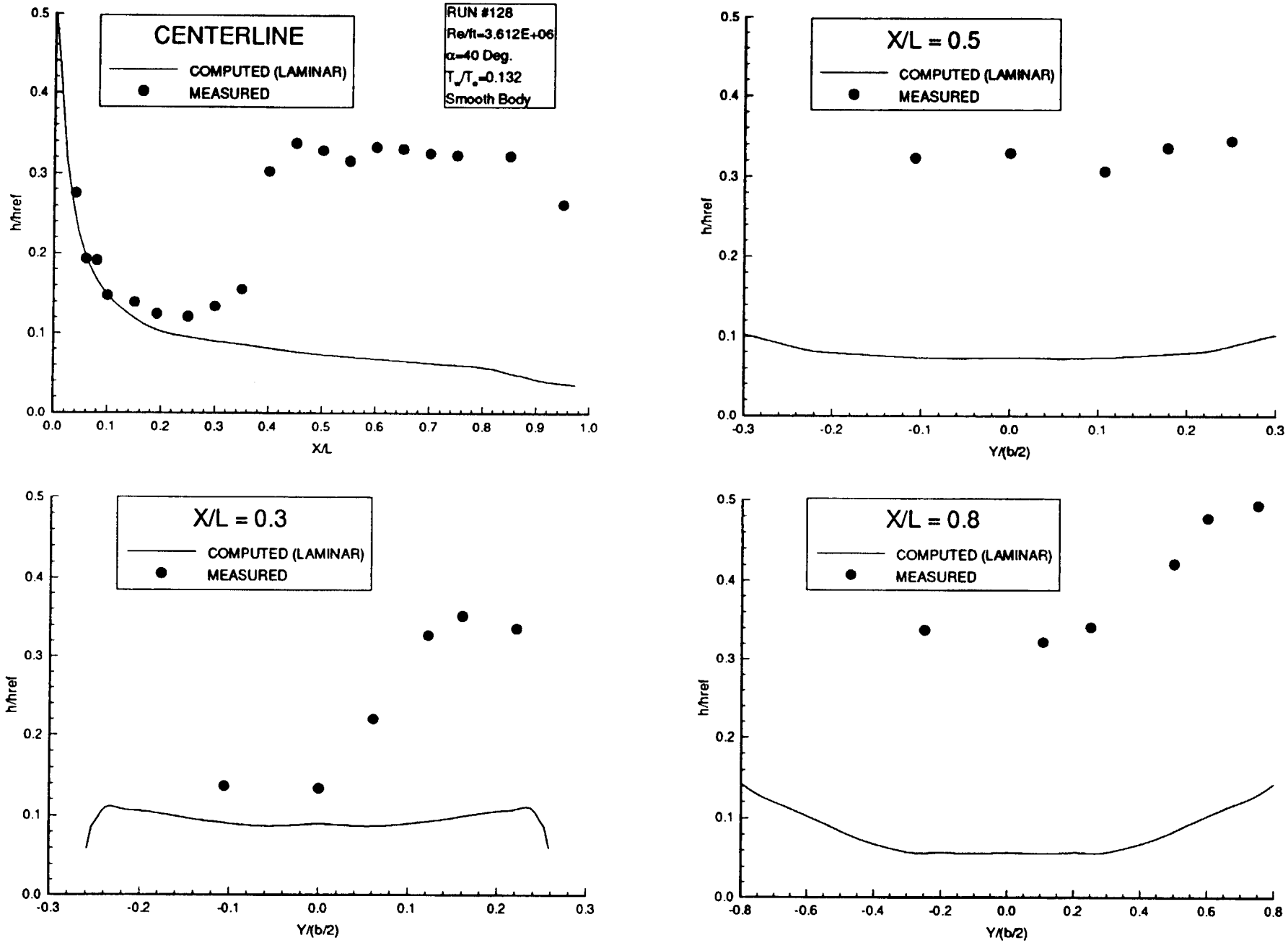


Figure B-123. - Heat Transfer Coefficient Data.

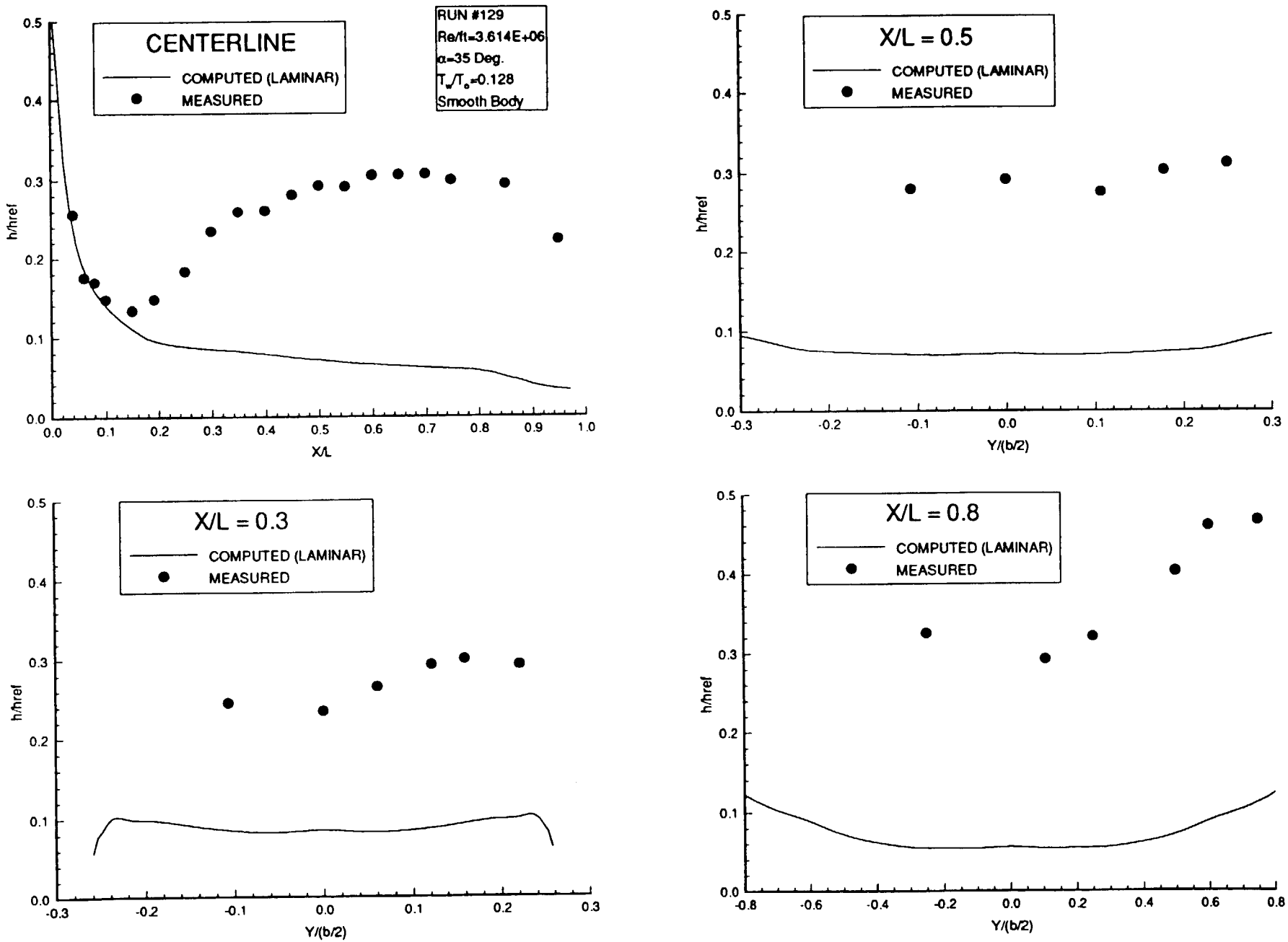


Figure B-124. - Heat Transfer Coefficient Data.

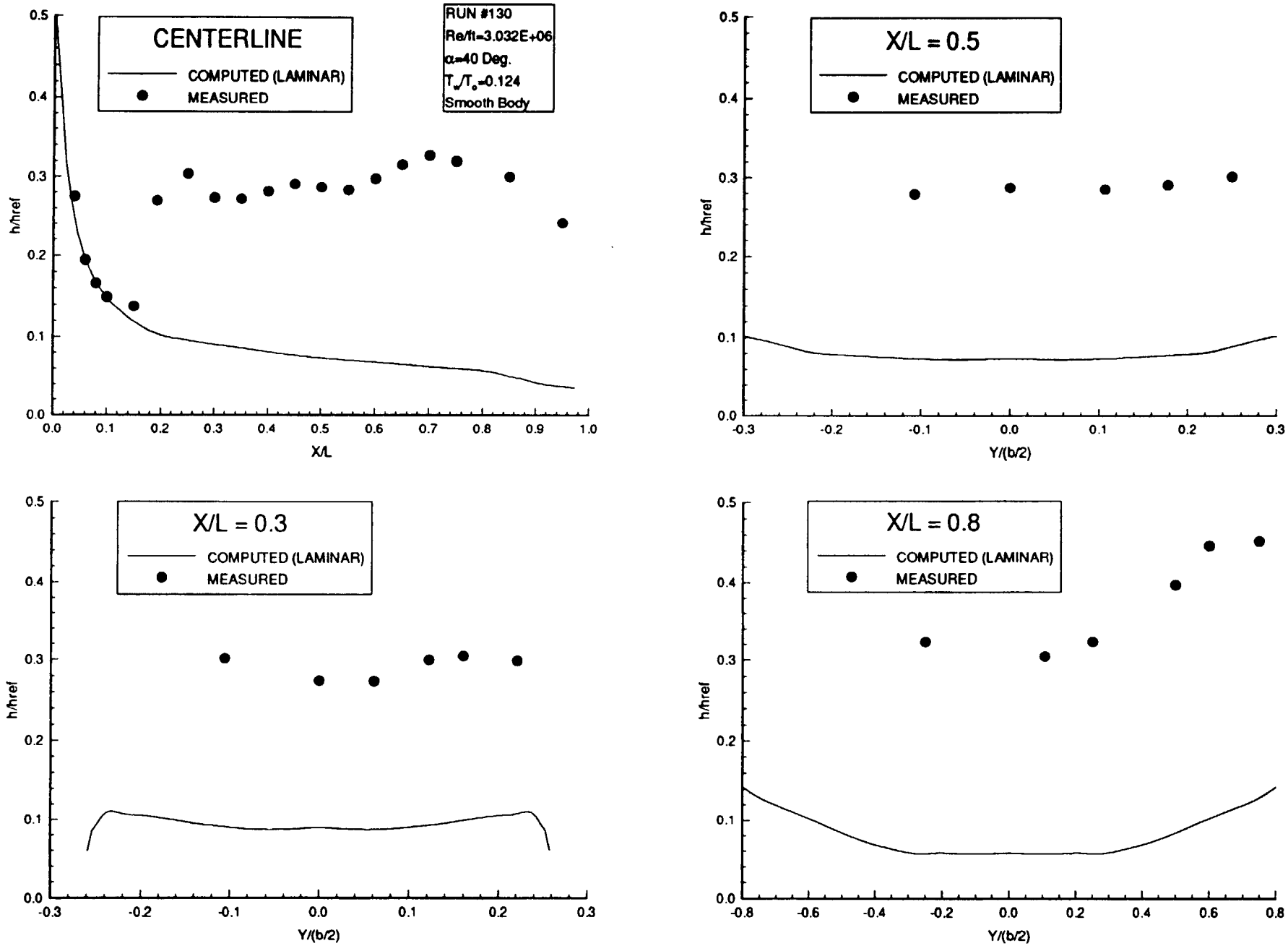


Figure B-125. - Heat Transfer Coefficient Data.

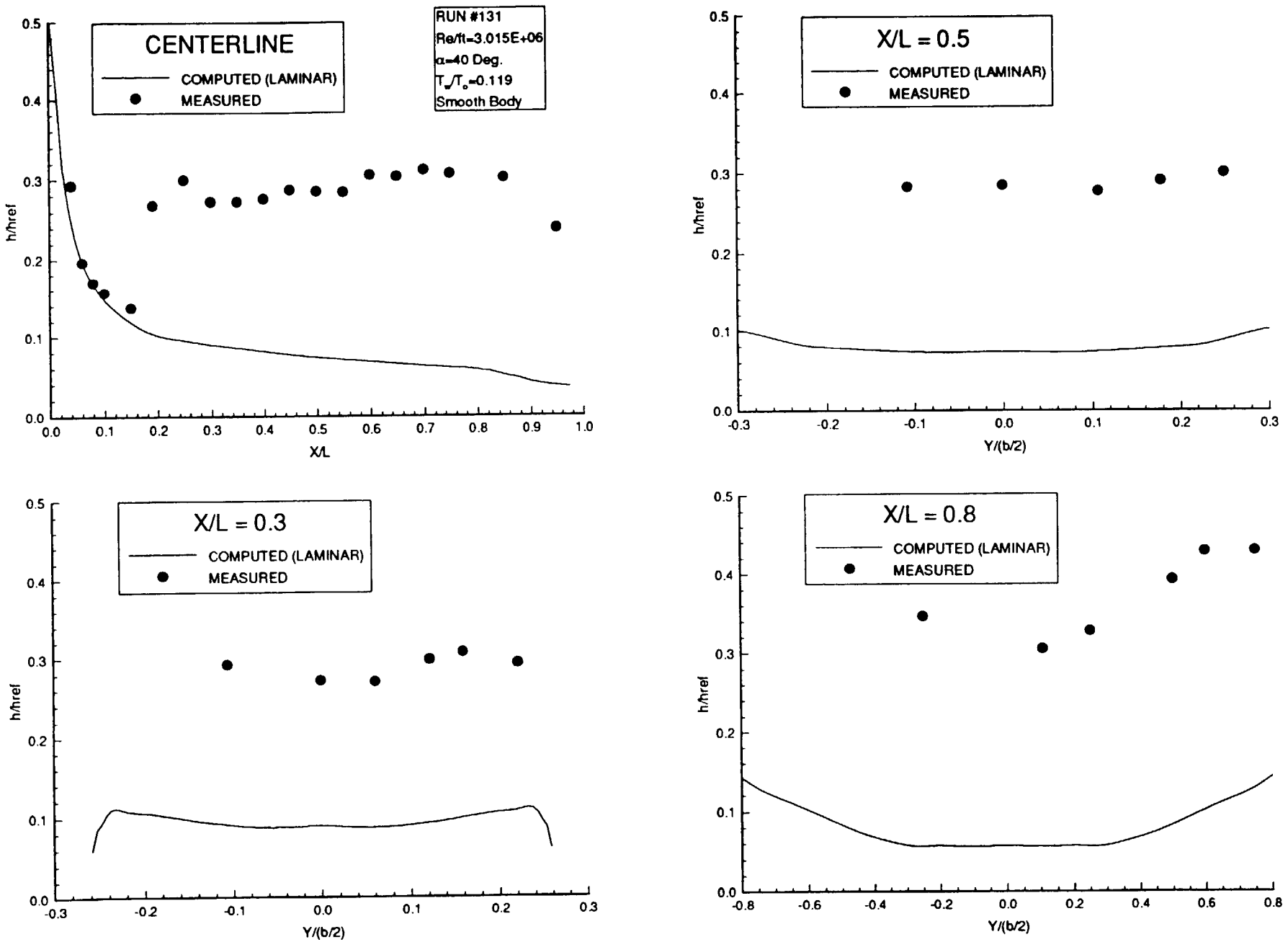


Figure B-126. - Heat Transfer Coefficient Data.

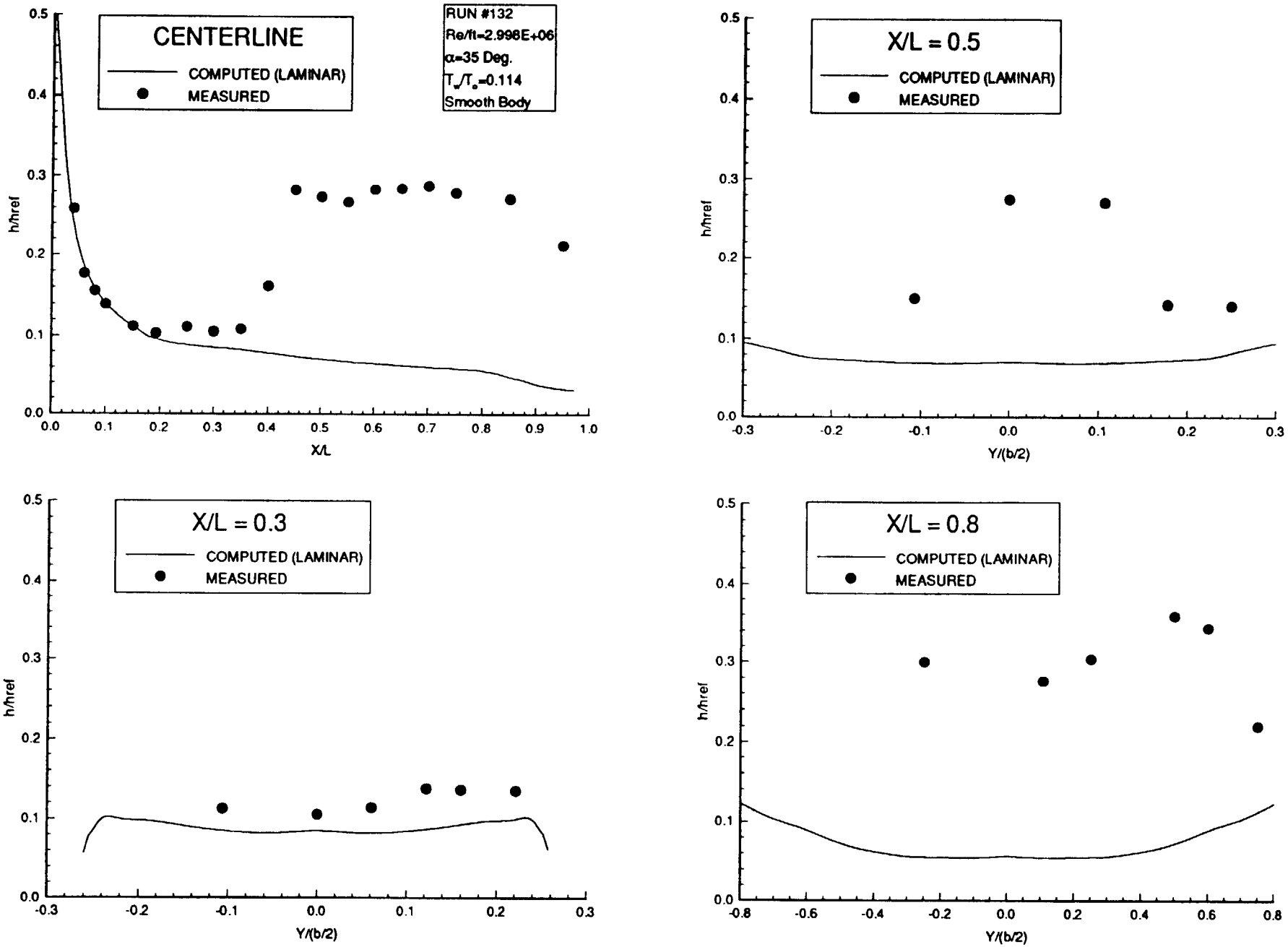


Figure B-127. - Heat Transfer Coefficient Data.

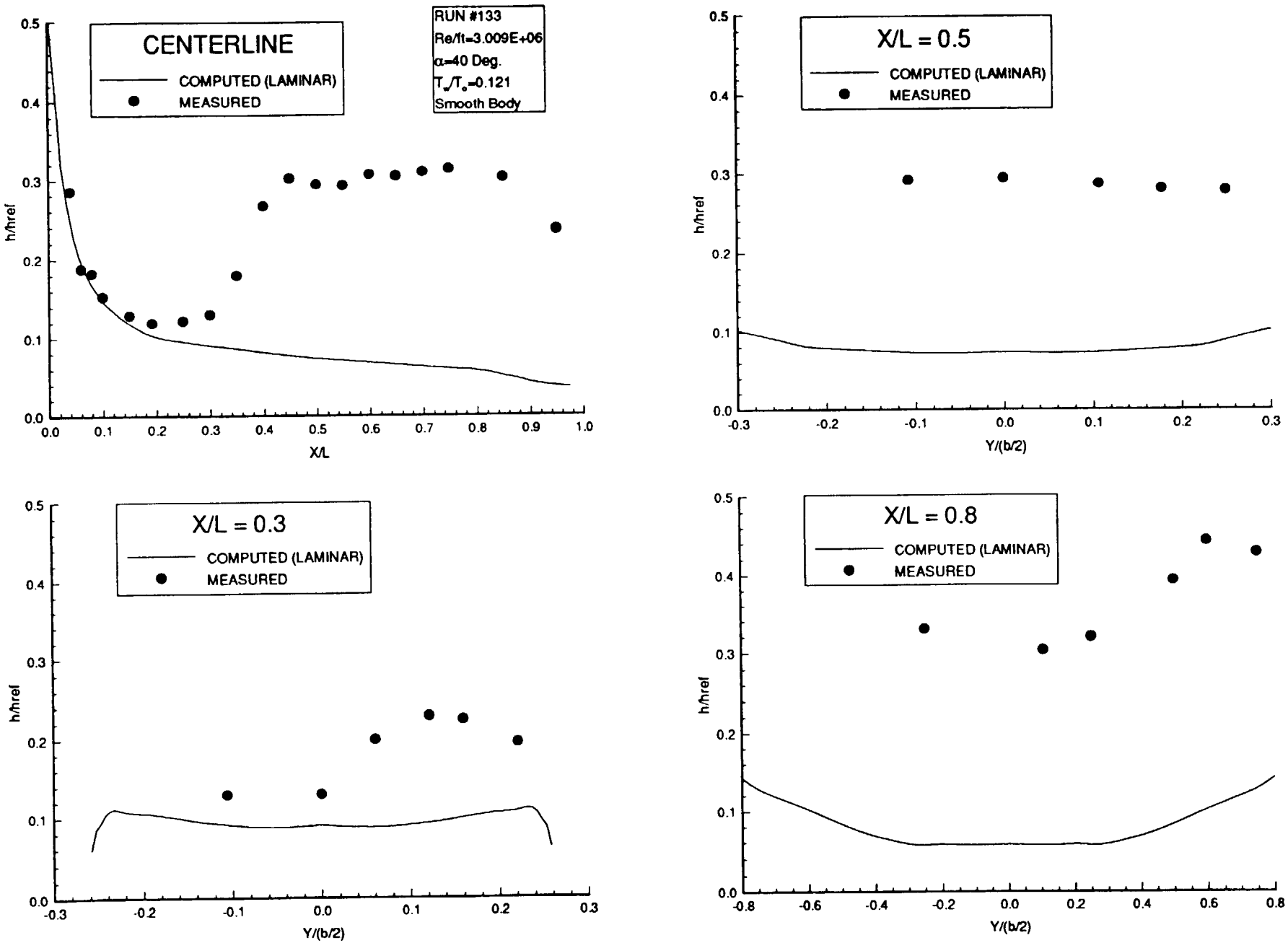


Figure B-128. - Heat Transfer Coefficient Data.

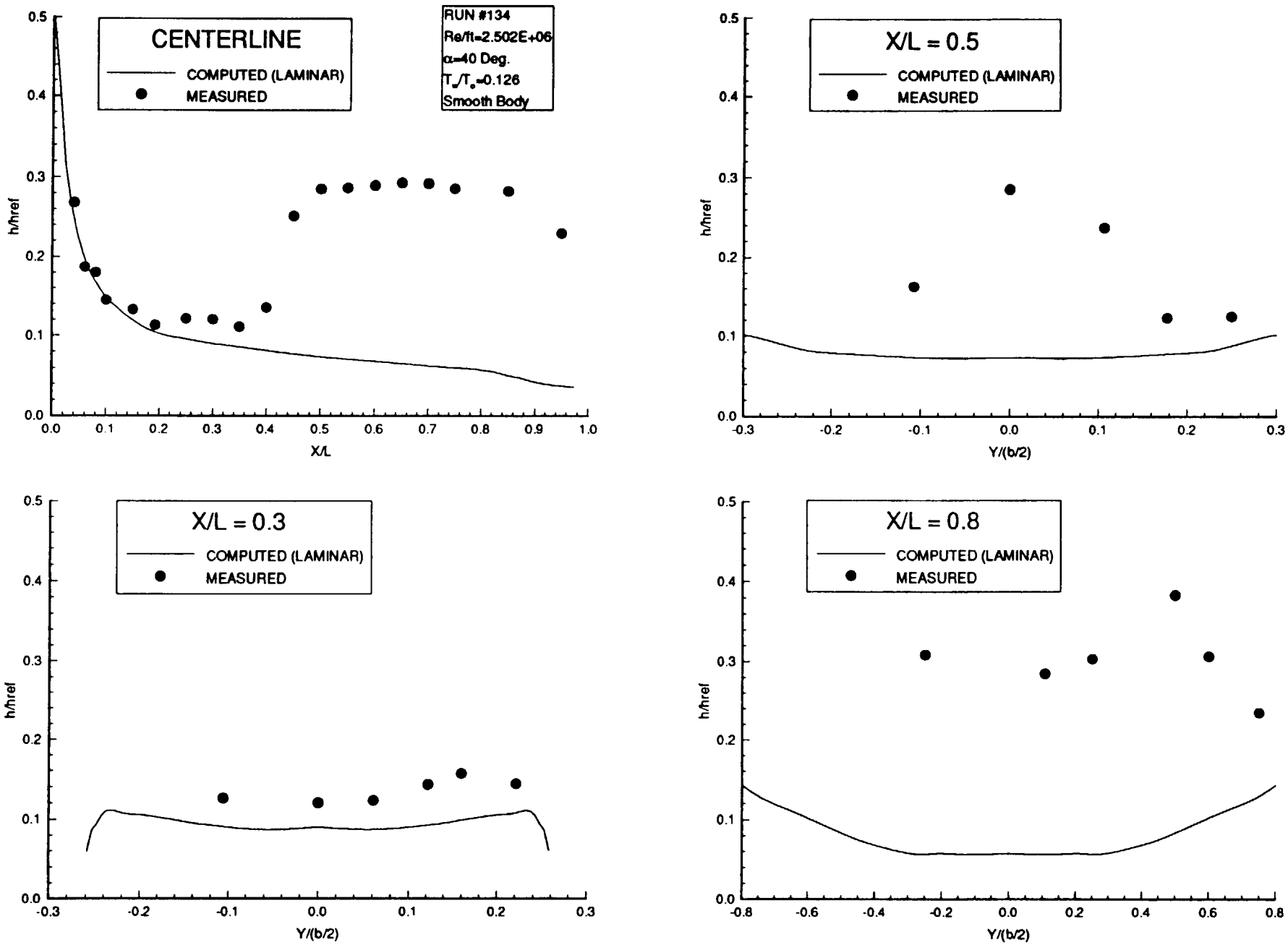
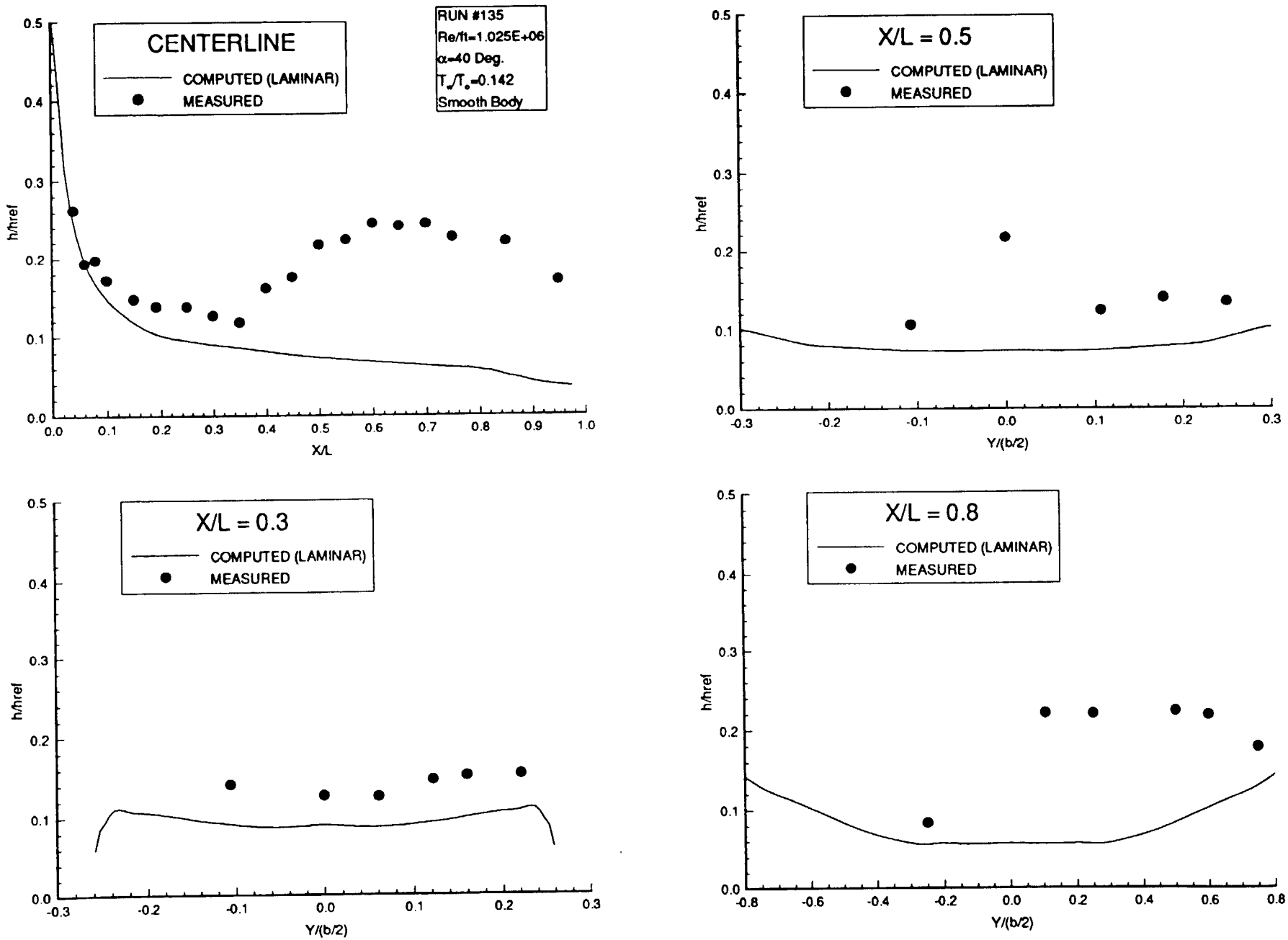


Figure B-129. - Heat Transfer Coefficient Data.



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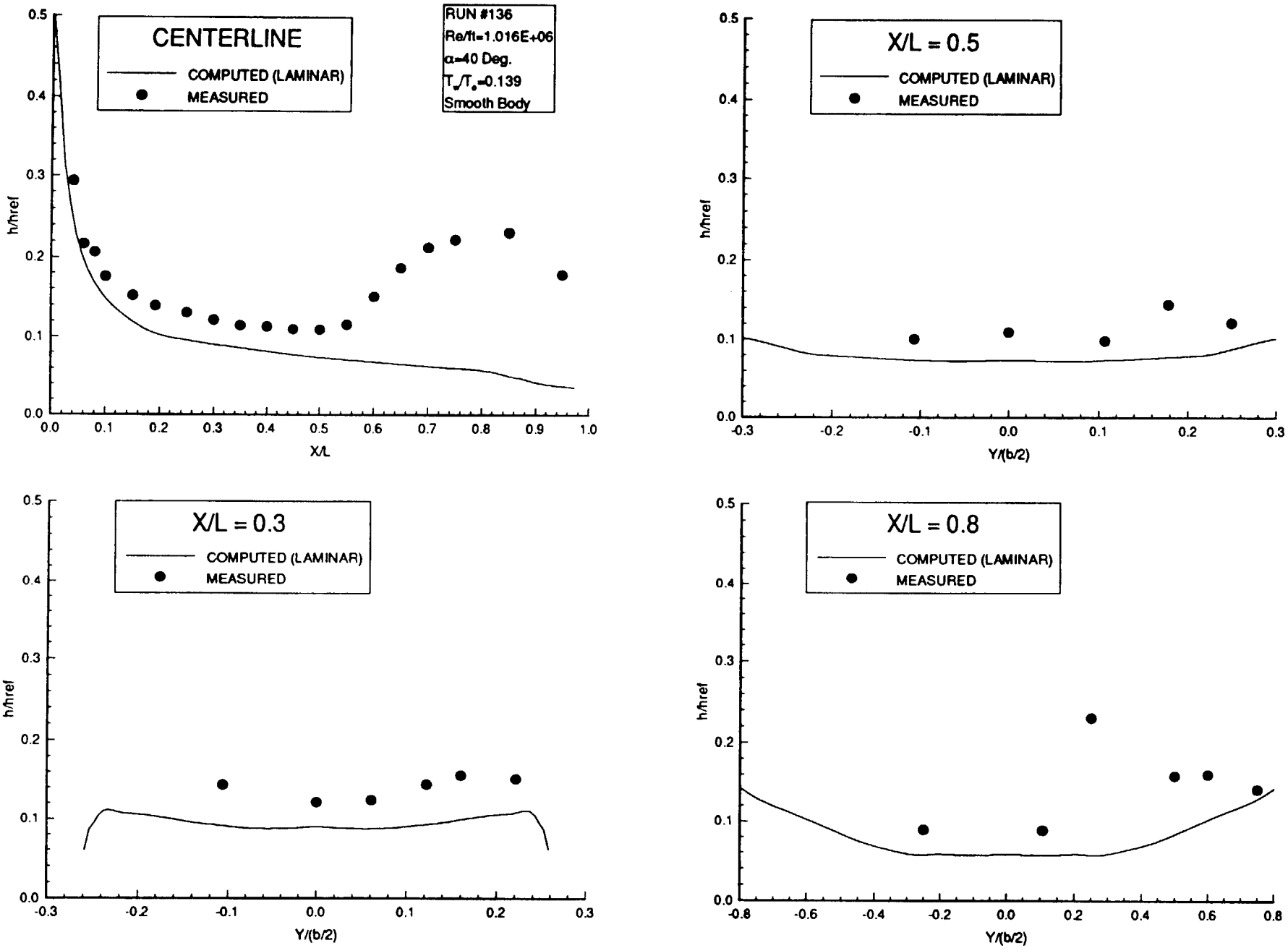

Figure B-131. - Heat Transfer Coefficient Data.

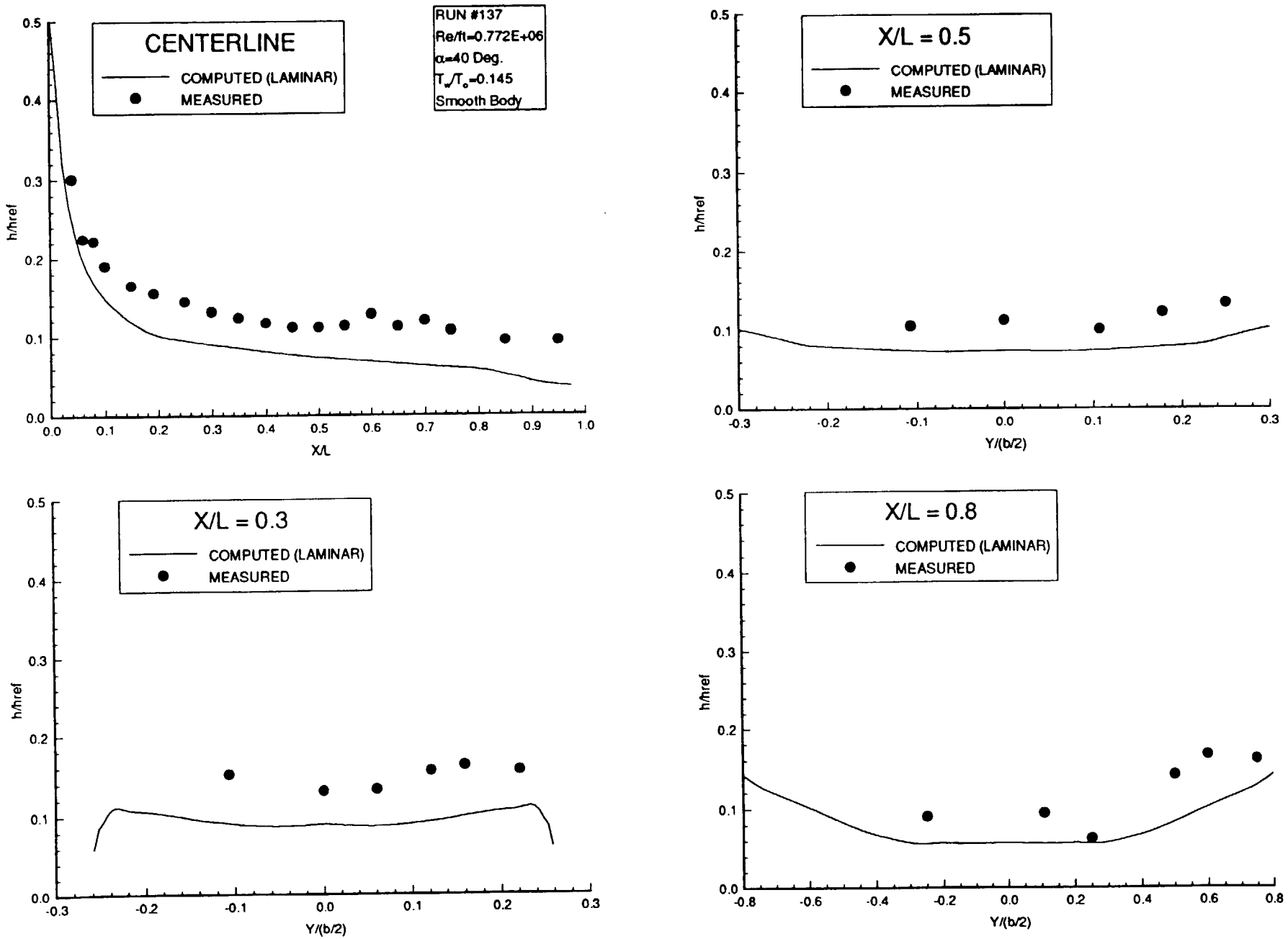

Figure B-132. - Heat Transfer Coefficient Data.

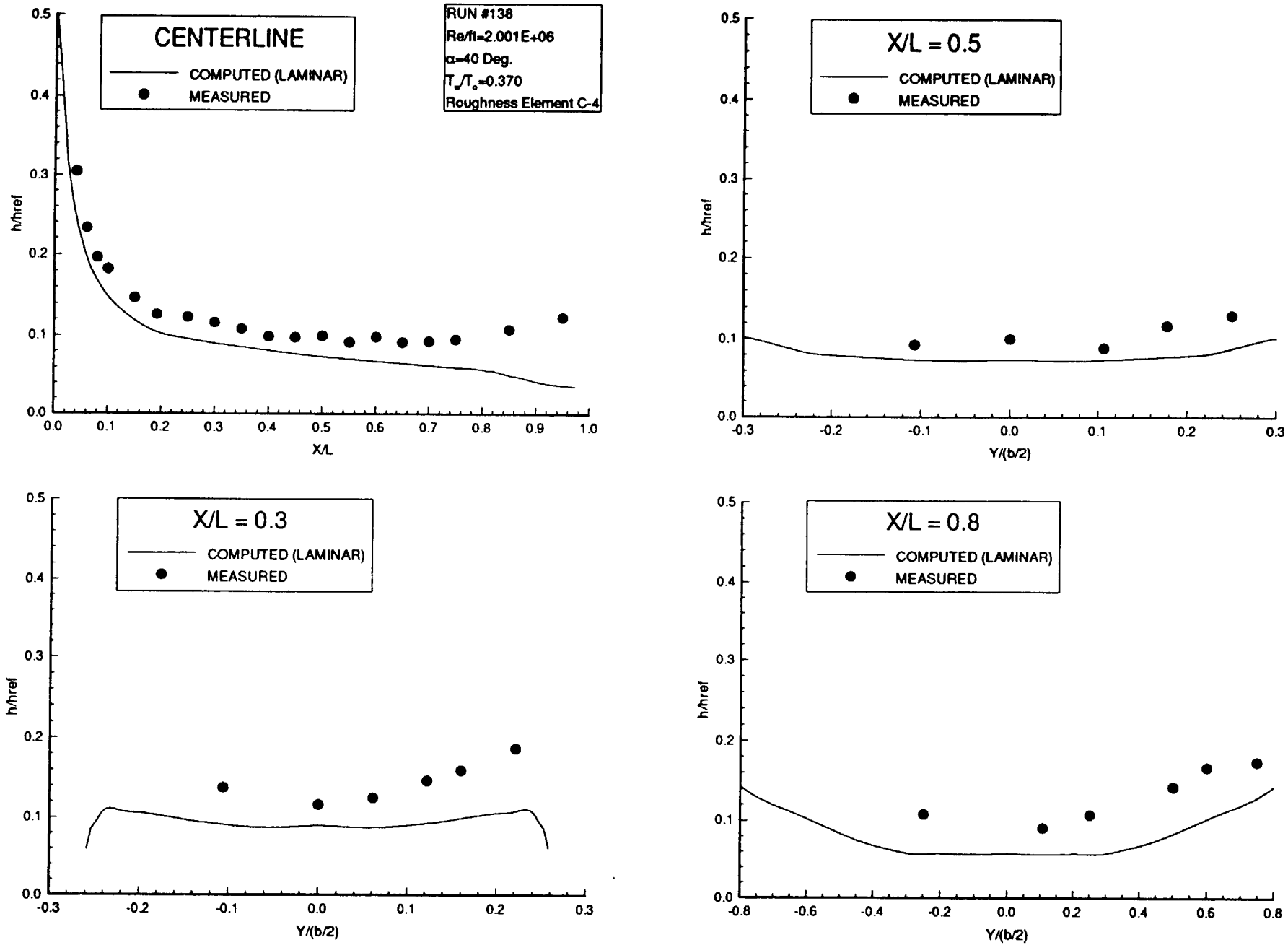

Figure B-133. - Heat Transfer Coefficient Data.

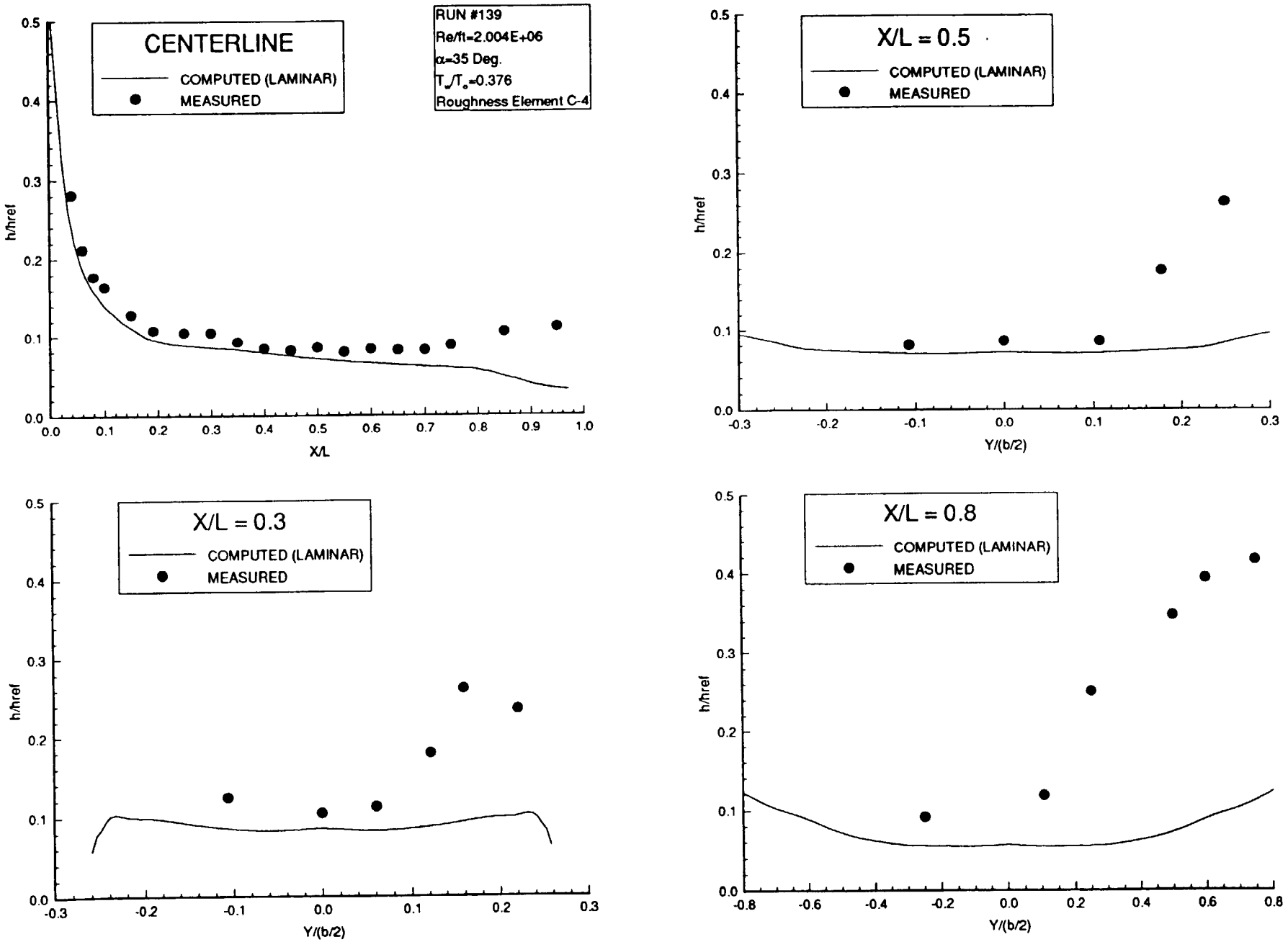

Figure B-134. - Heat Transfer Coefficient Data.

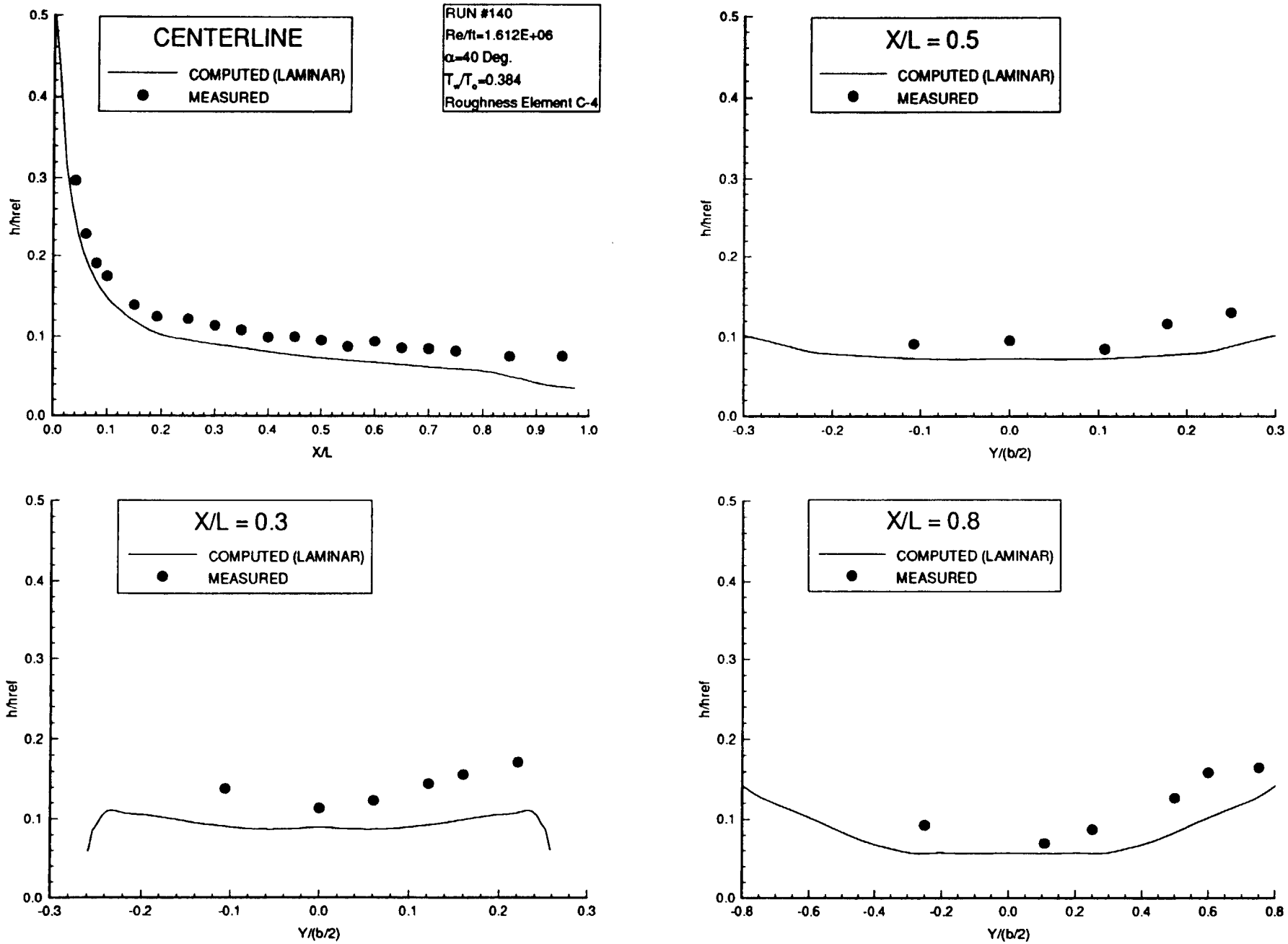

Figure B-135. - Heat Transfer Coefficient Data.

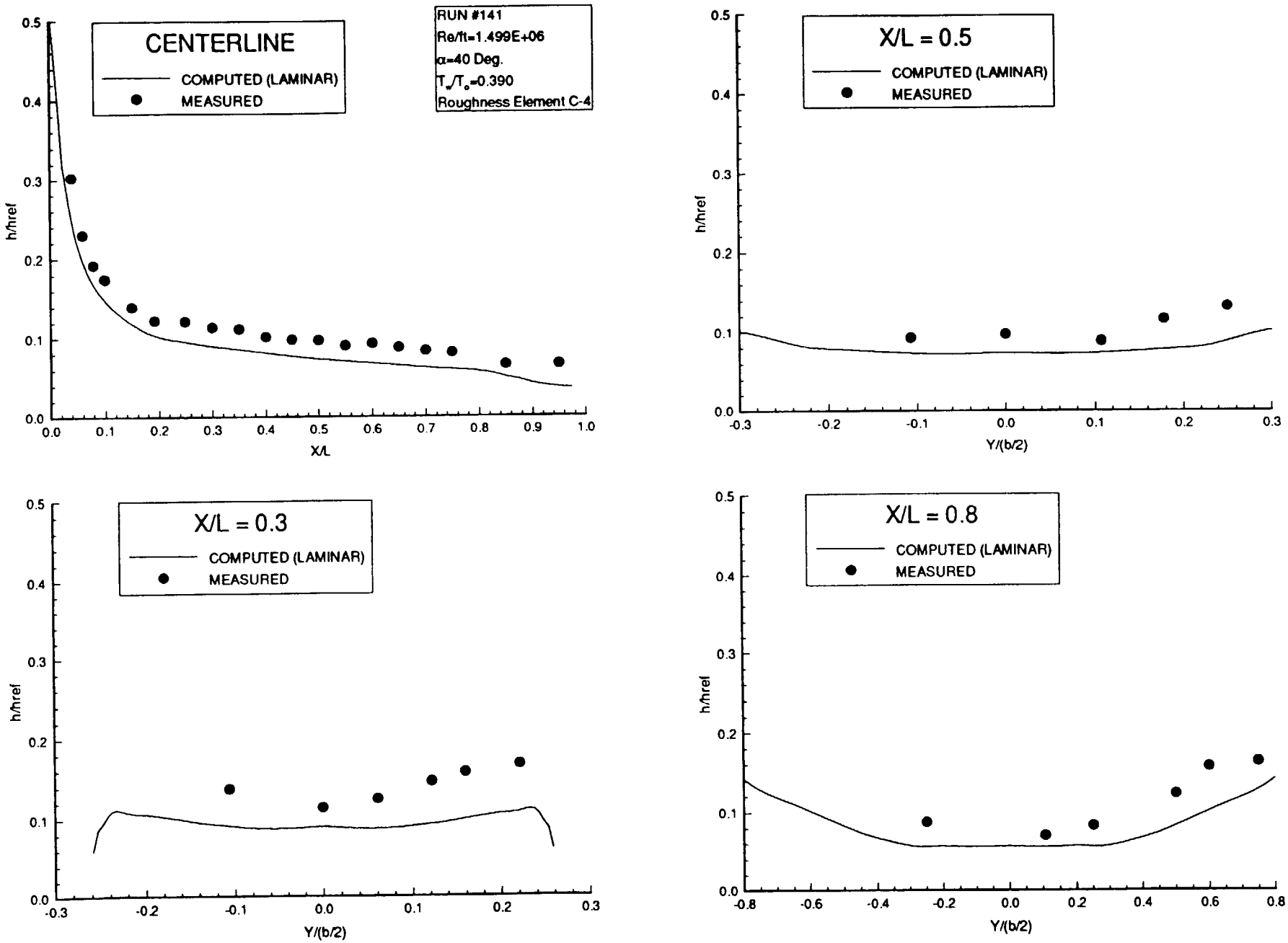

Figure B-136. - Heat Transfer Coefficient Data.

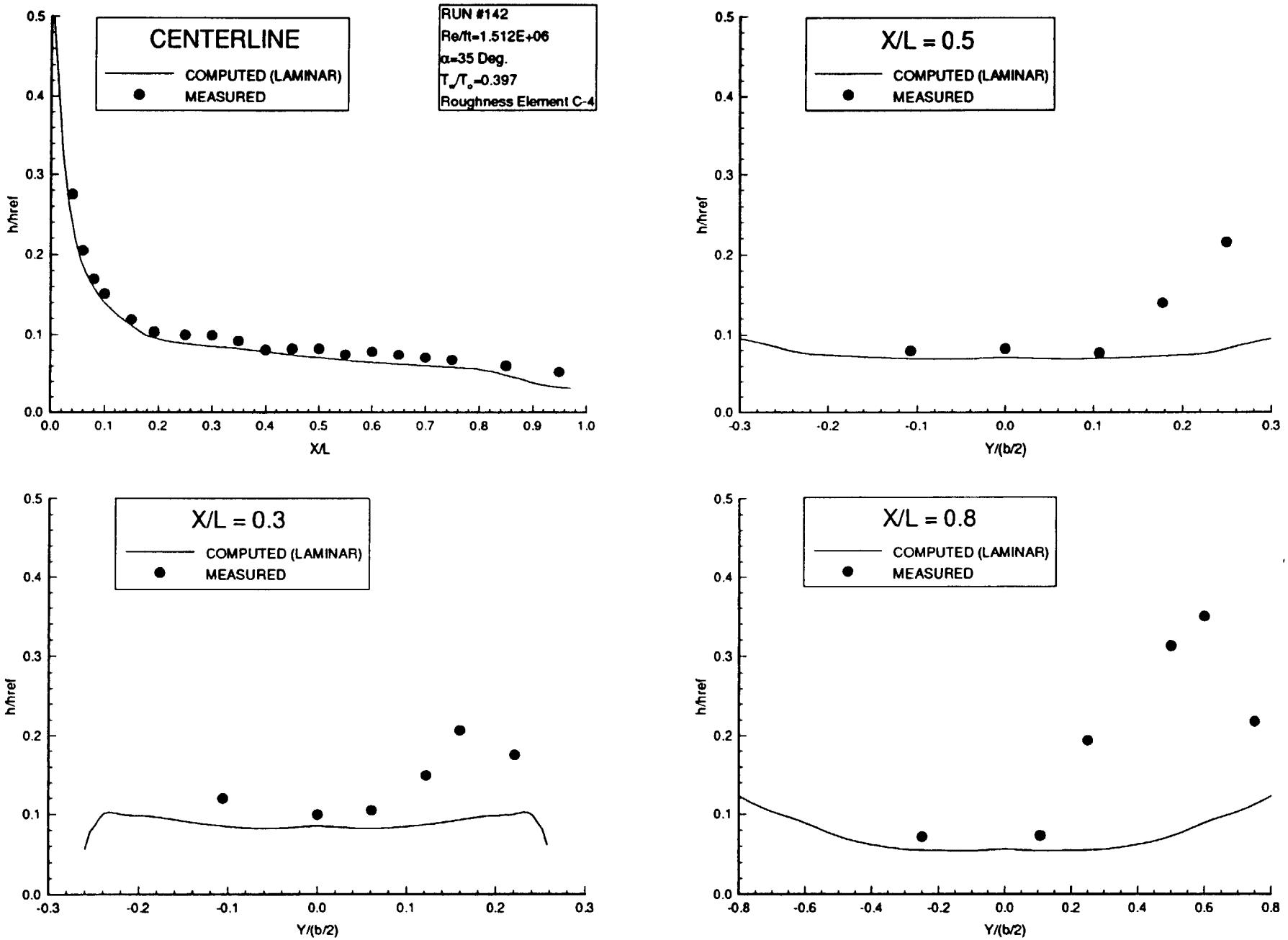

Figure B-137. - Heat Transfer Coefficient Data.

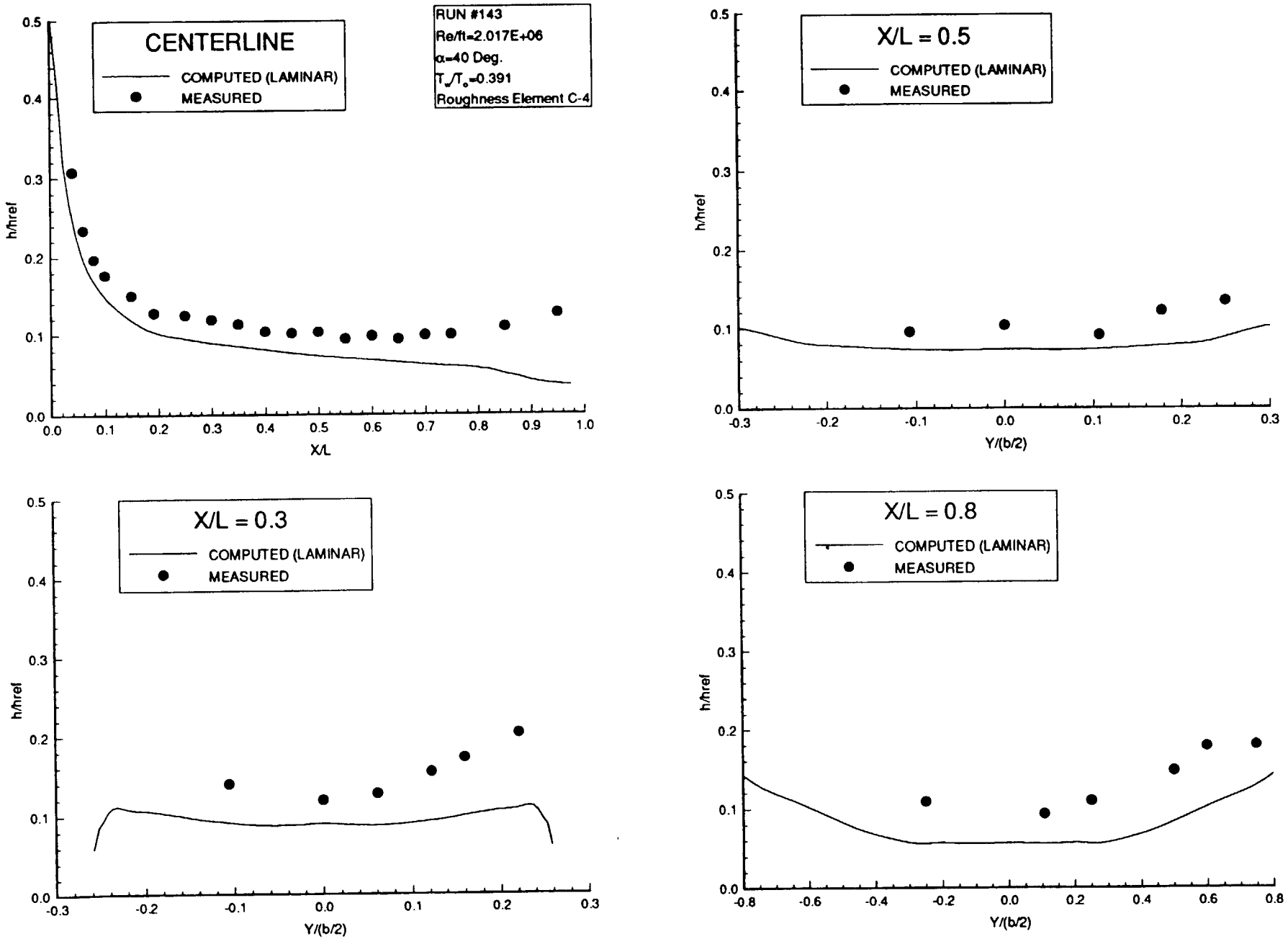

Figure B-138. - Heat Transfer Coefficient Data.

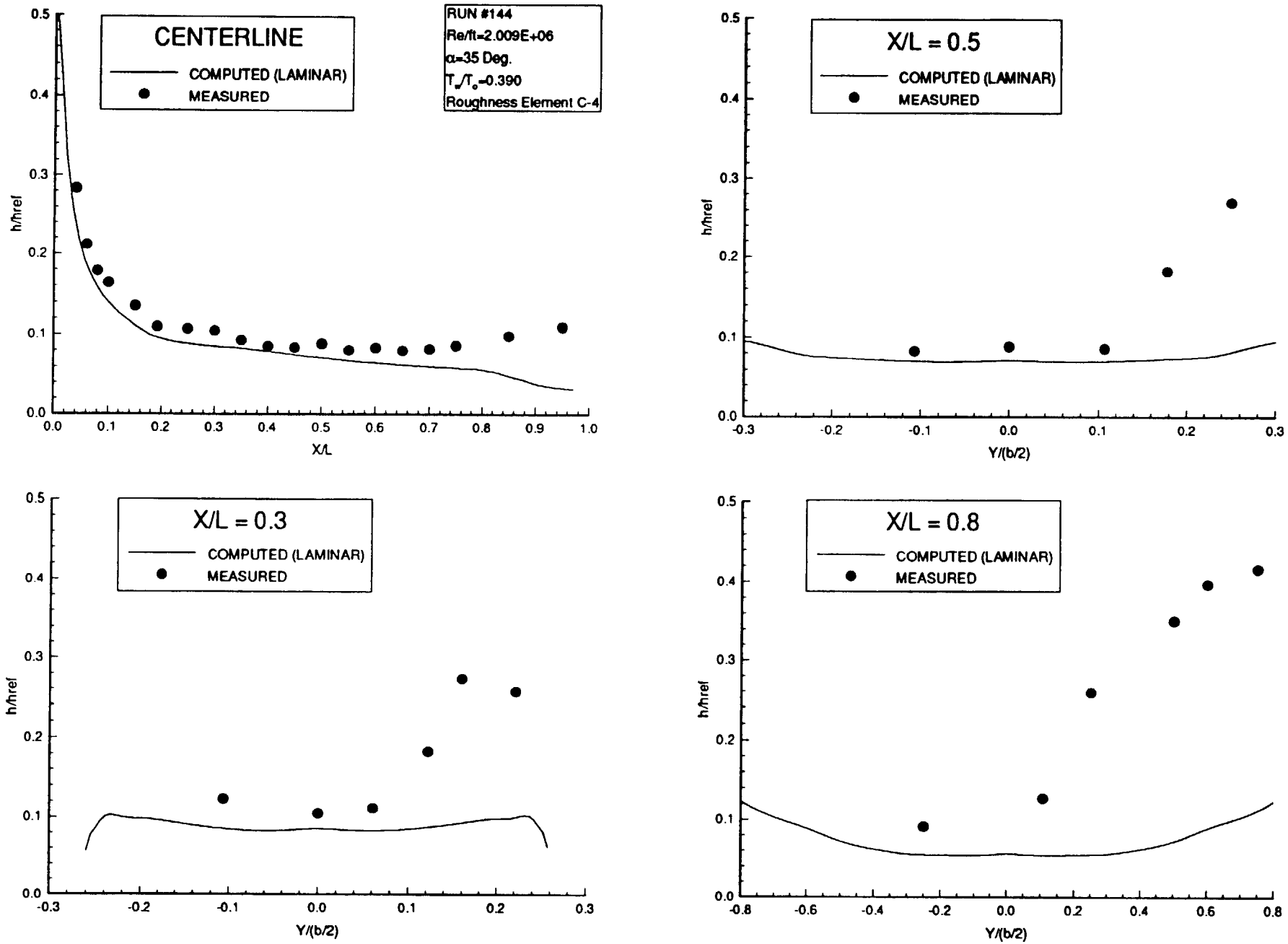

Figure B-139. - Heat Transfer Coefficient Data.

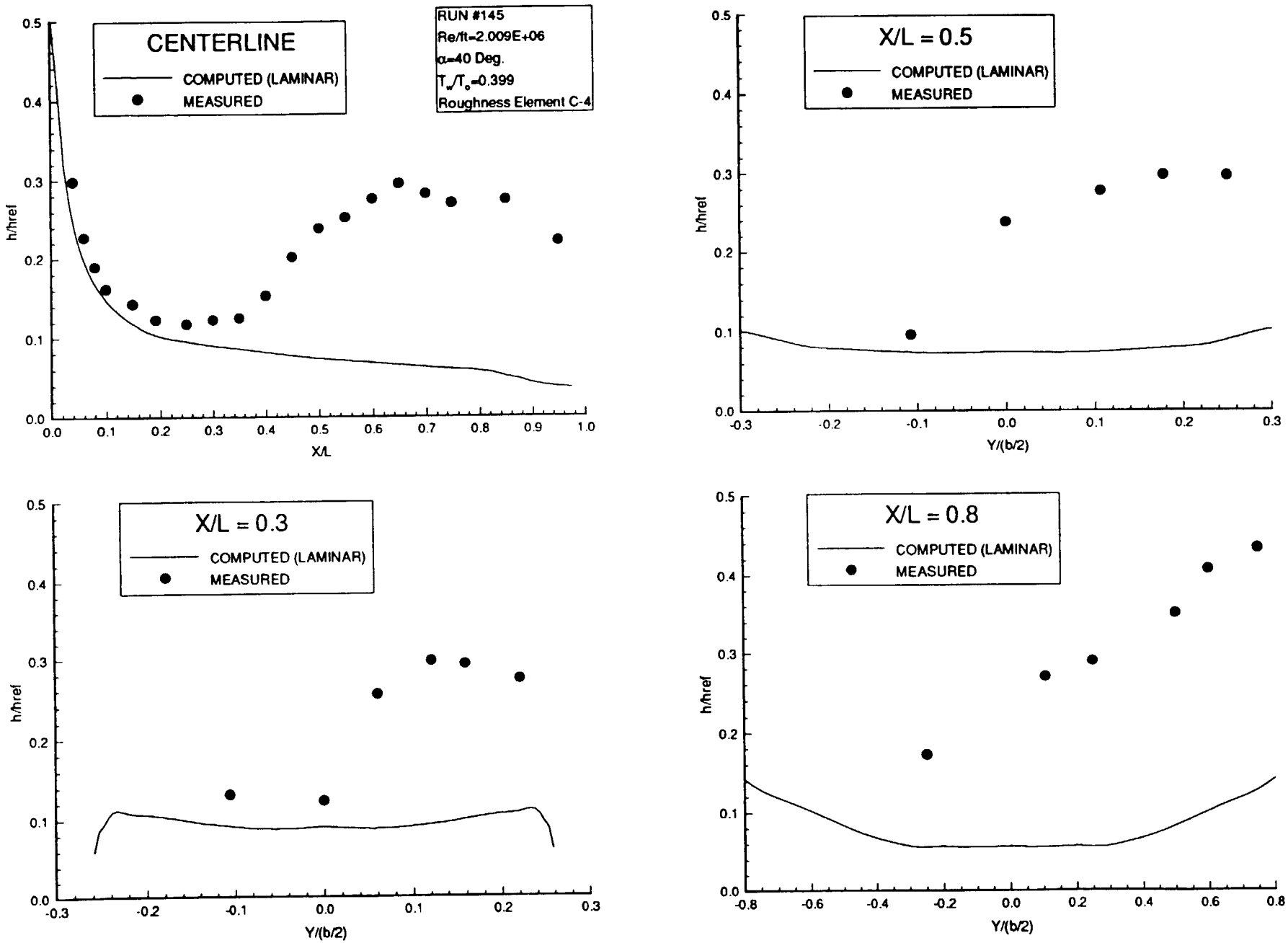

Figure B-140. - Heat Transfer Coefficient Data.

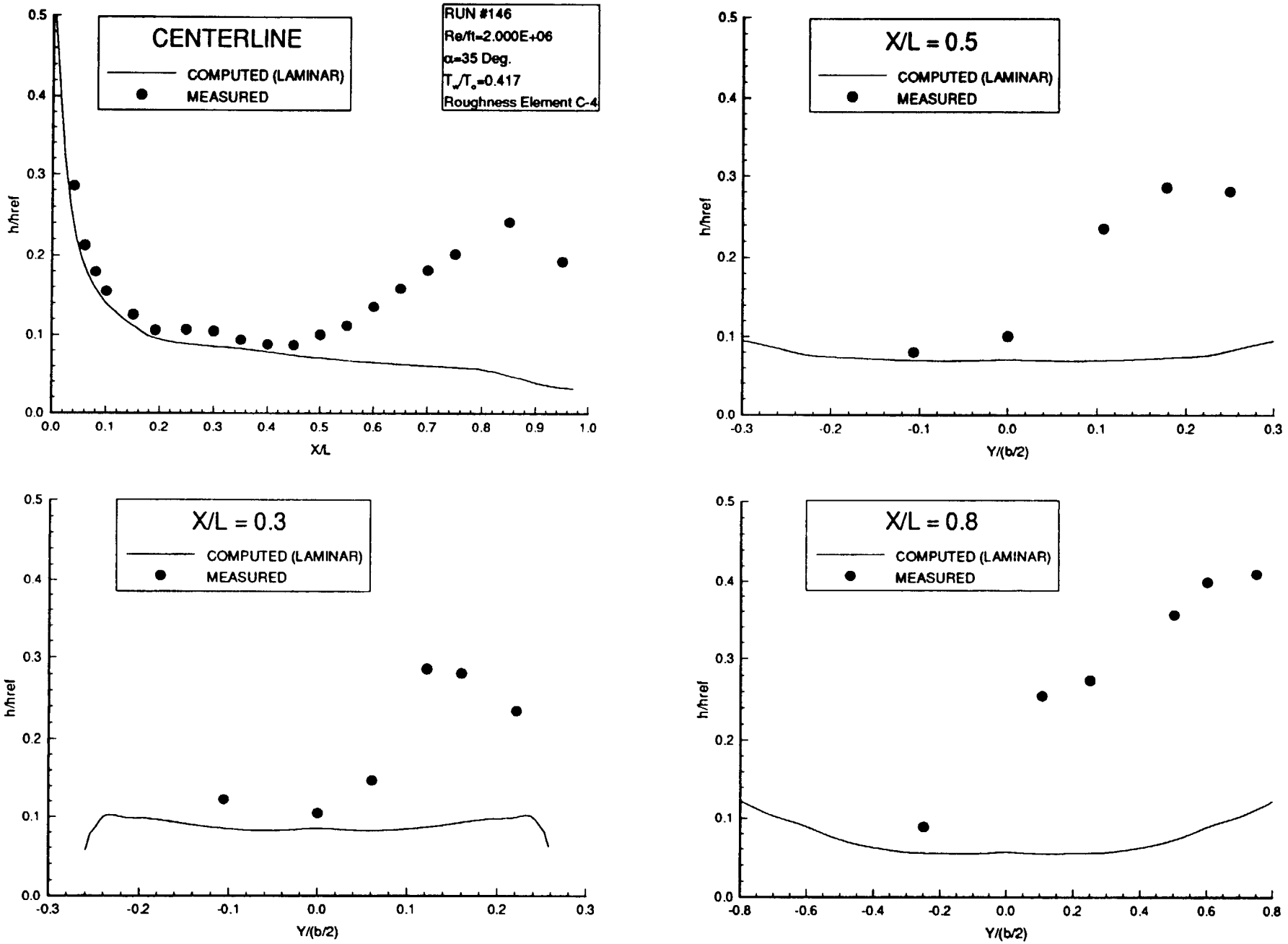

Figure B-141. - Heat Transfer Coefficient Data.

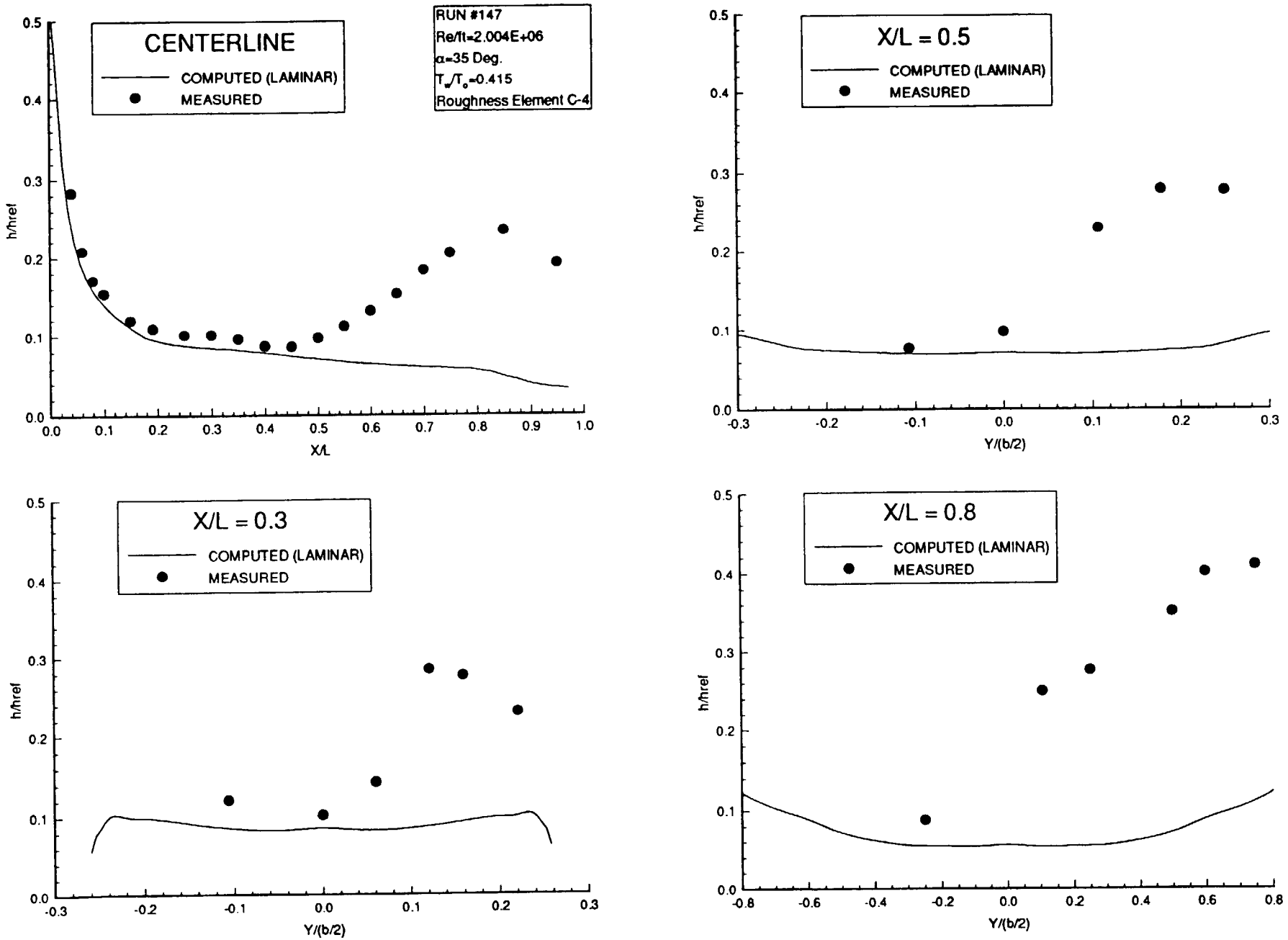

Figure B-142. - Heat Transfer Coefficient Data.

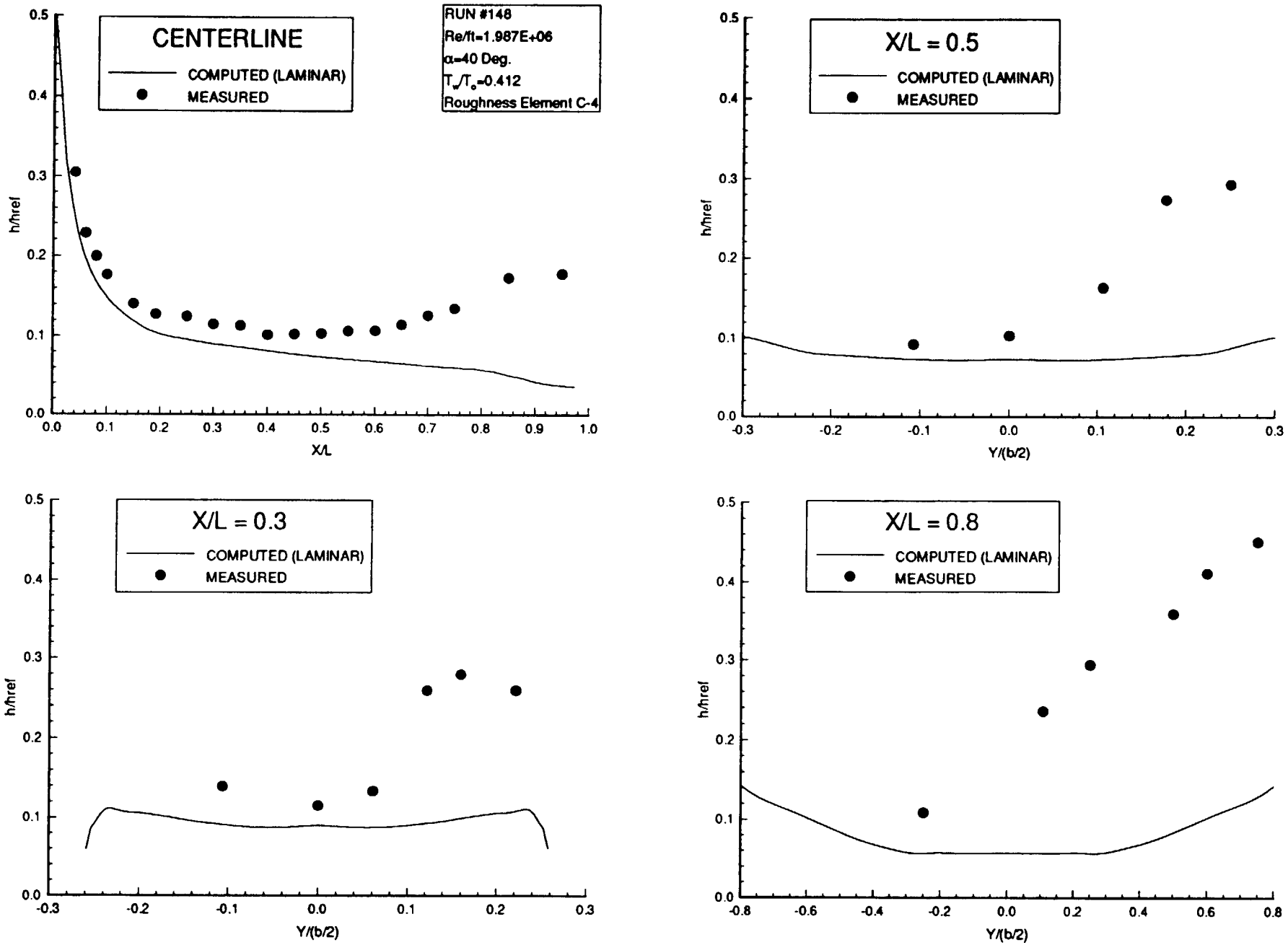

Figure B-143. - Heat Transfer Coefficient Data.

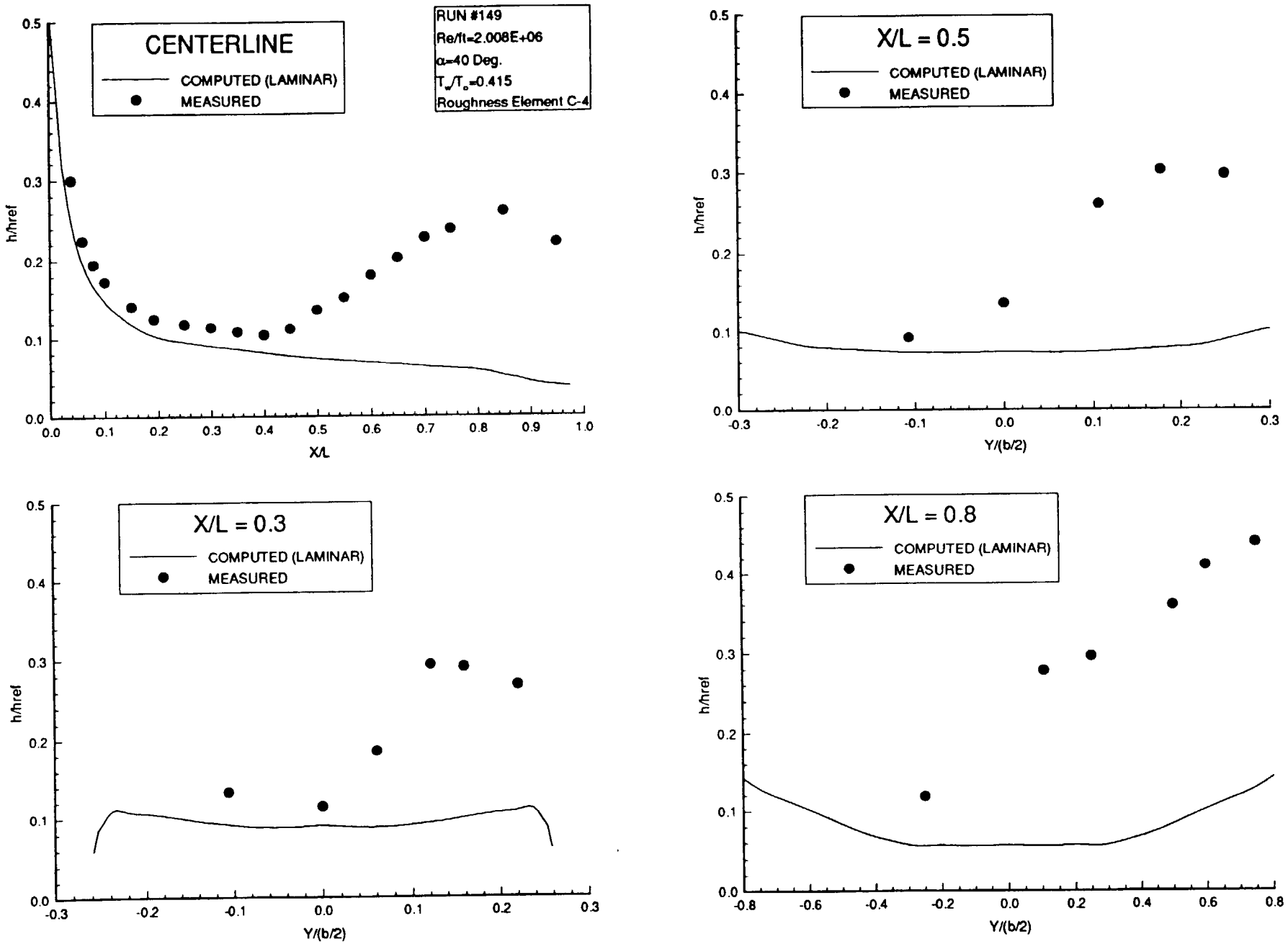

Figure B-144. - Heat Transfer Coefficient Data.

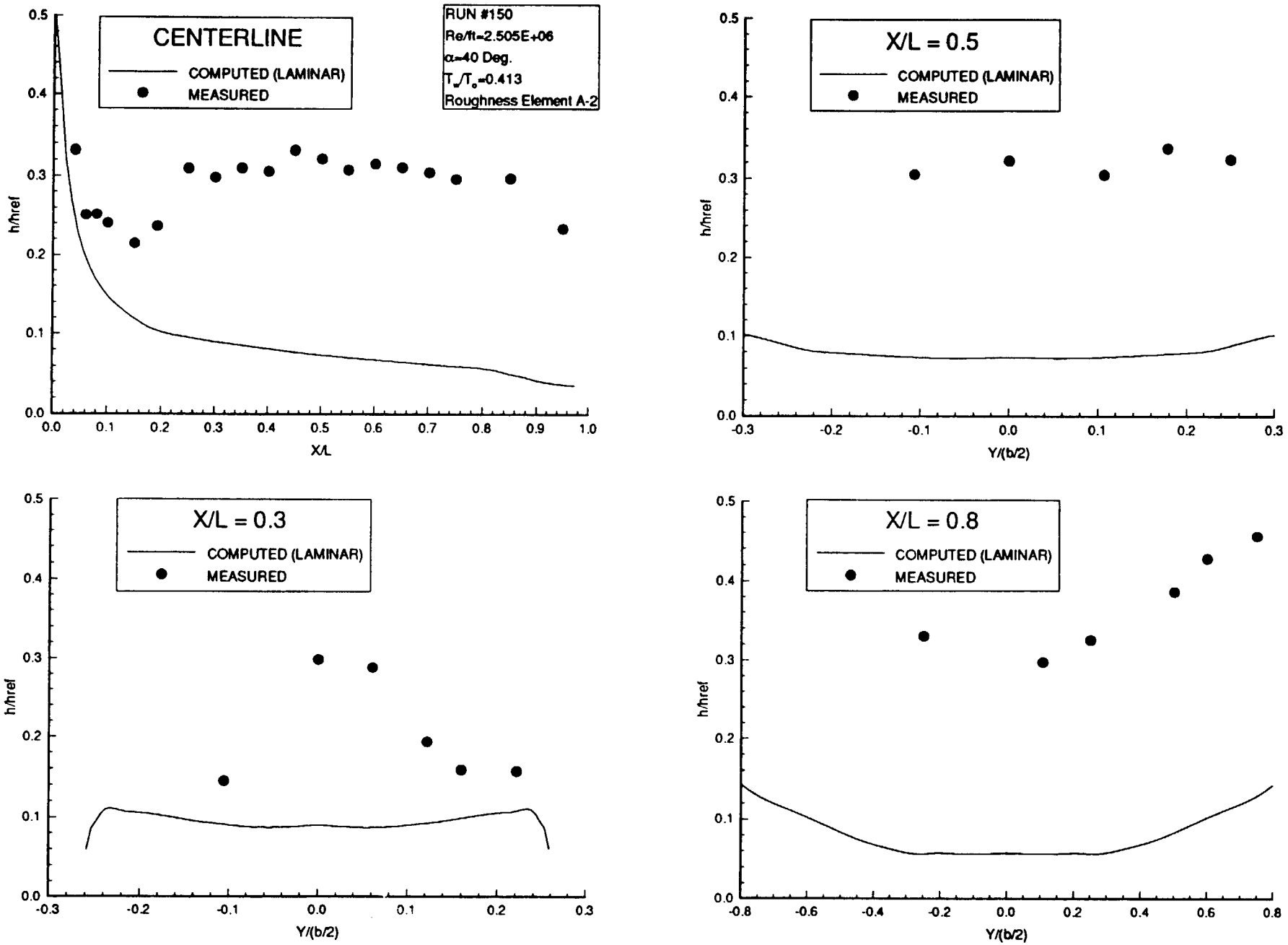

Figure B-145. - Heat Transfer Coefficient Data.

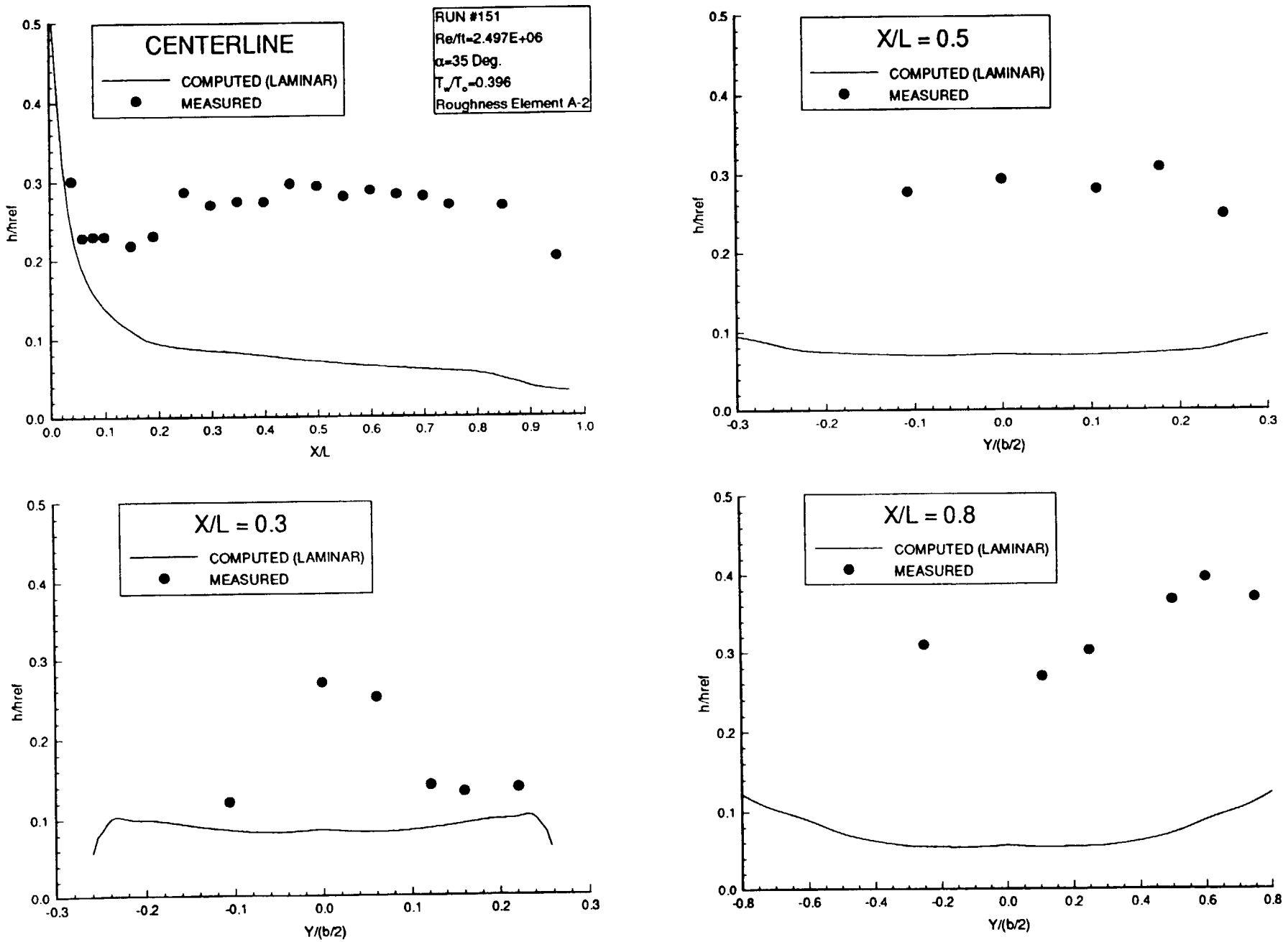

Figure B-146. - Heat Transfer Coefficient Data. .

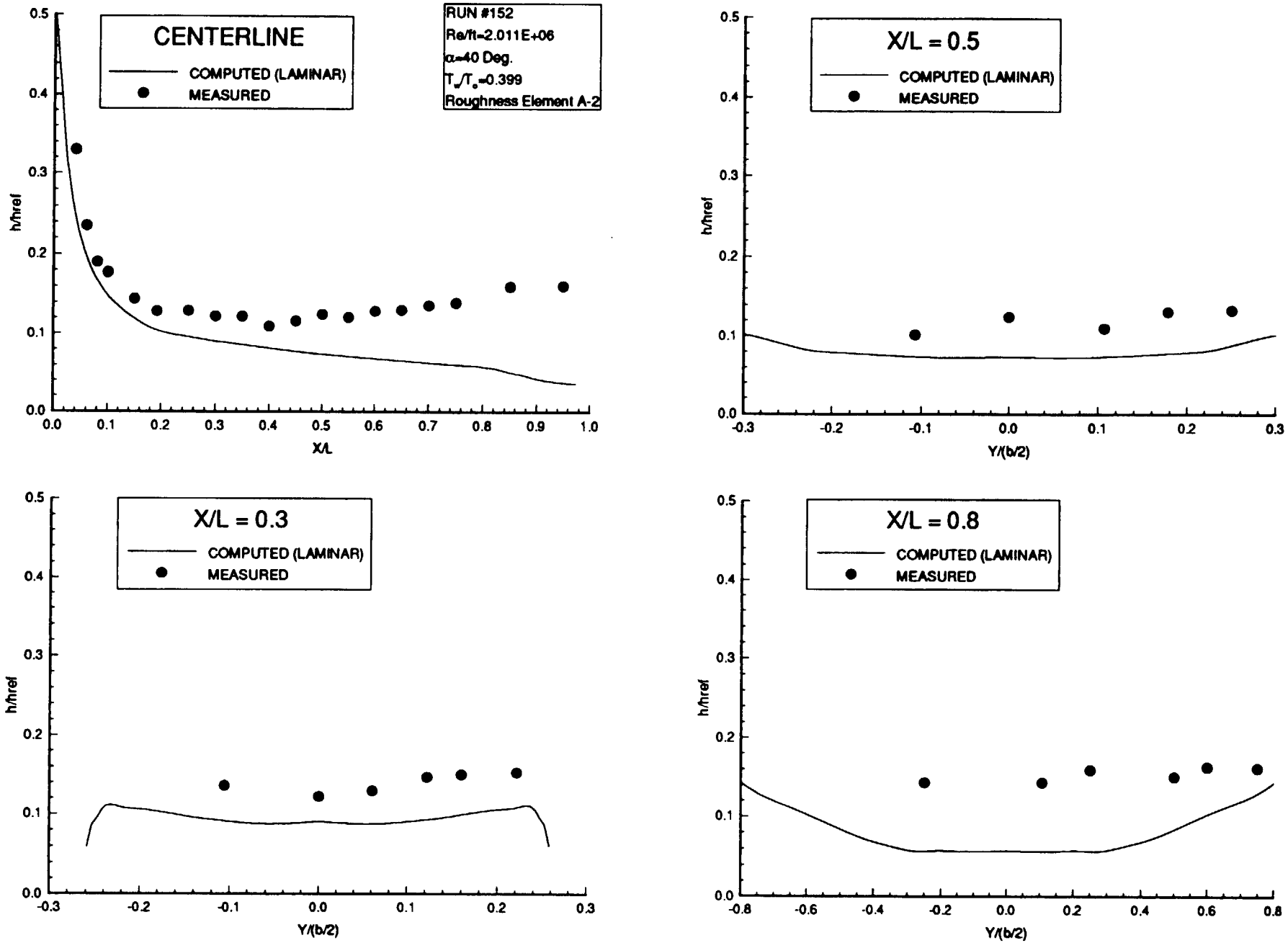

Figure B-147. - Heat Transfer Coefficient Data.

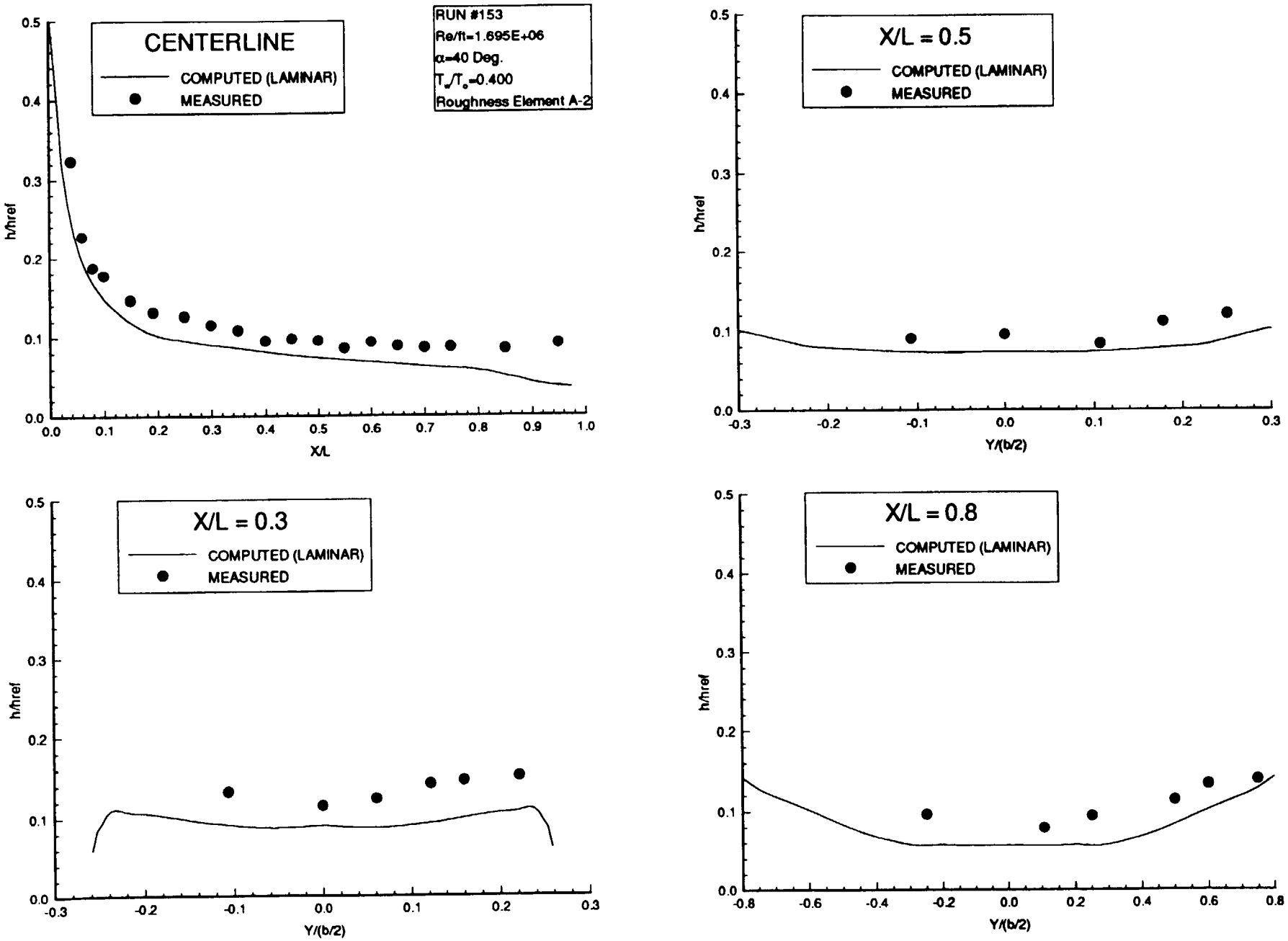

Figure B-148. - Heat Transfer Coefficient Data.

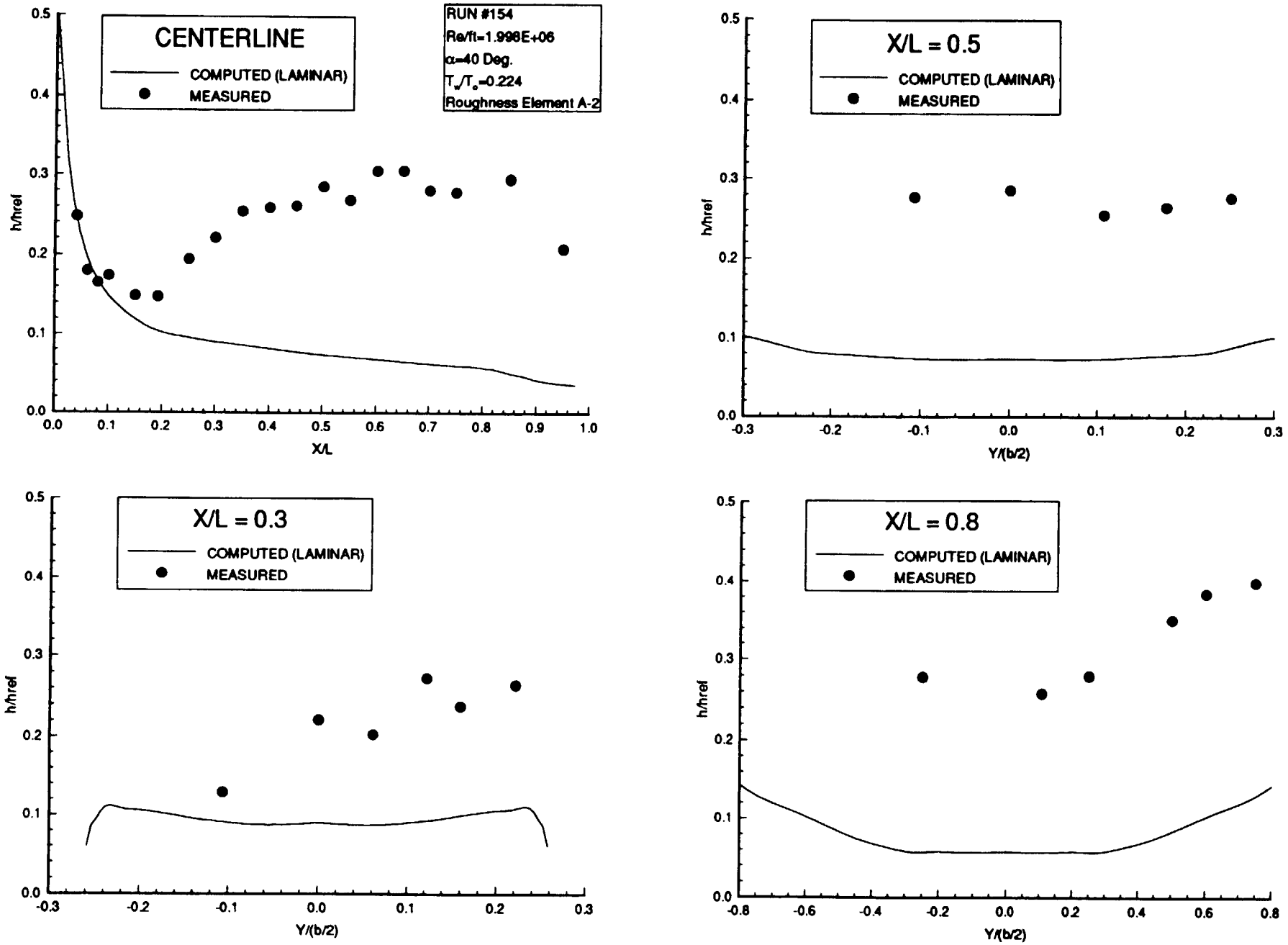

Figure B-149. - Heat Transfer Coefficient Data.

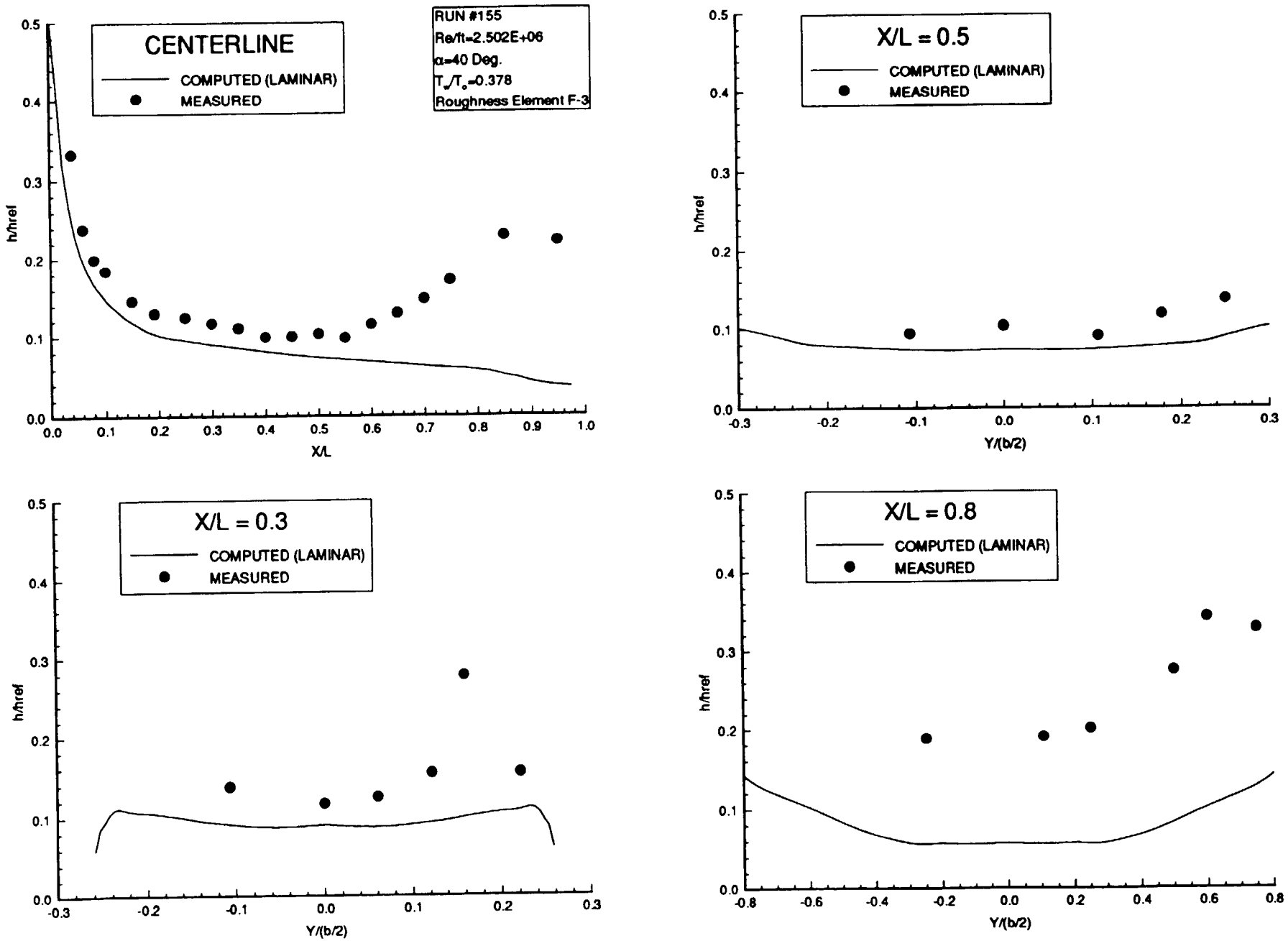

Figure B-150. - Heat Transfer Coefficient Data.

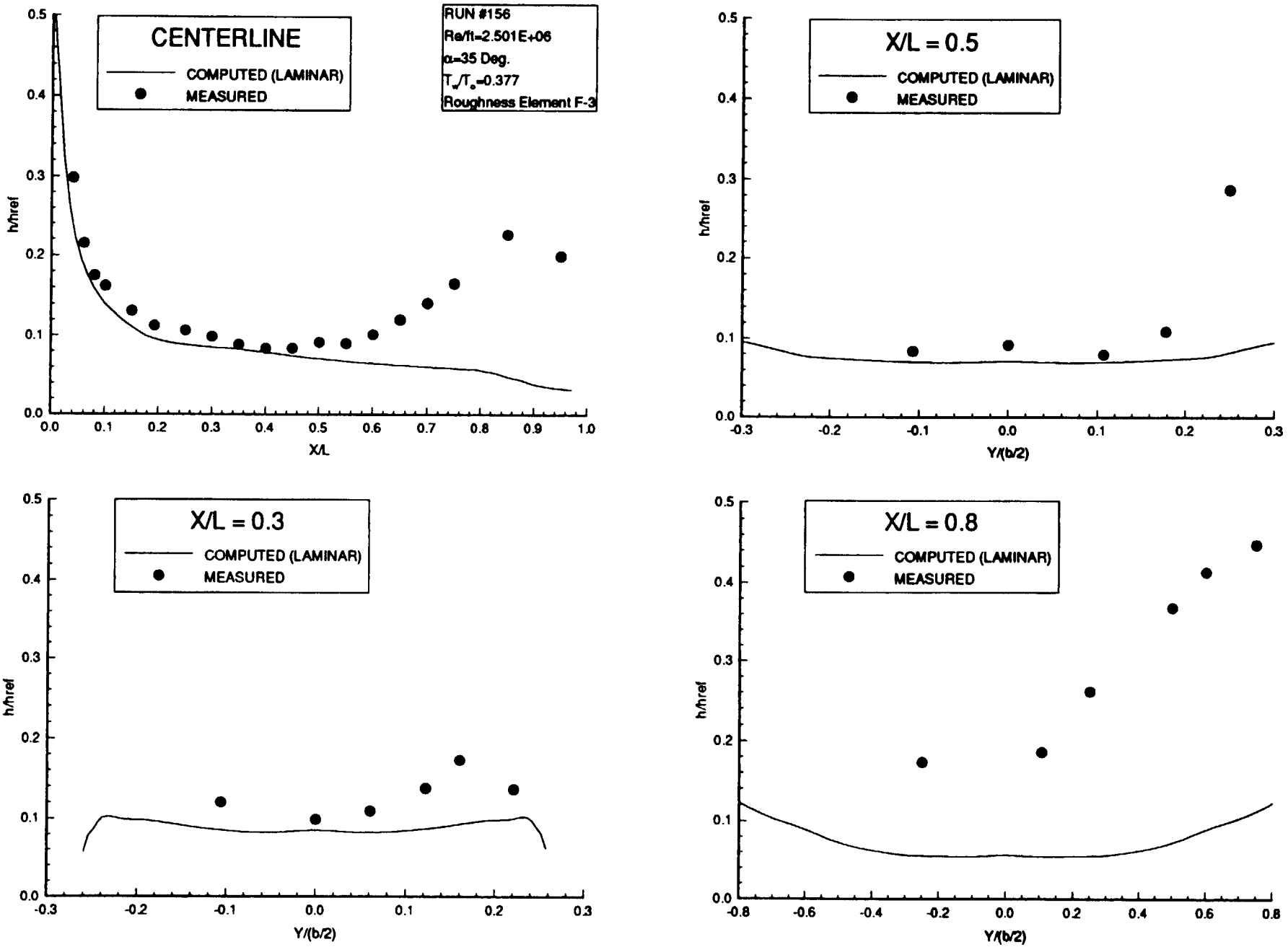

Figure B-151. - Heat Transfer Coefficient Data.

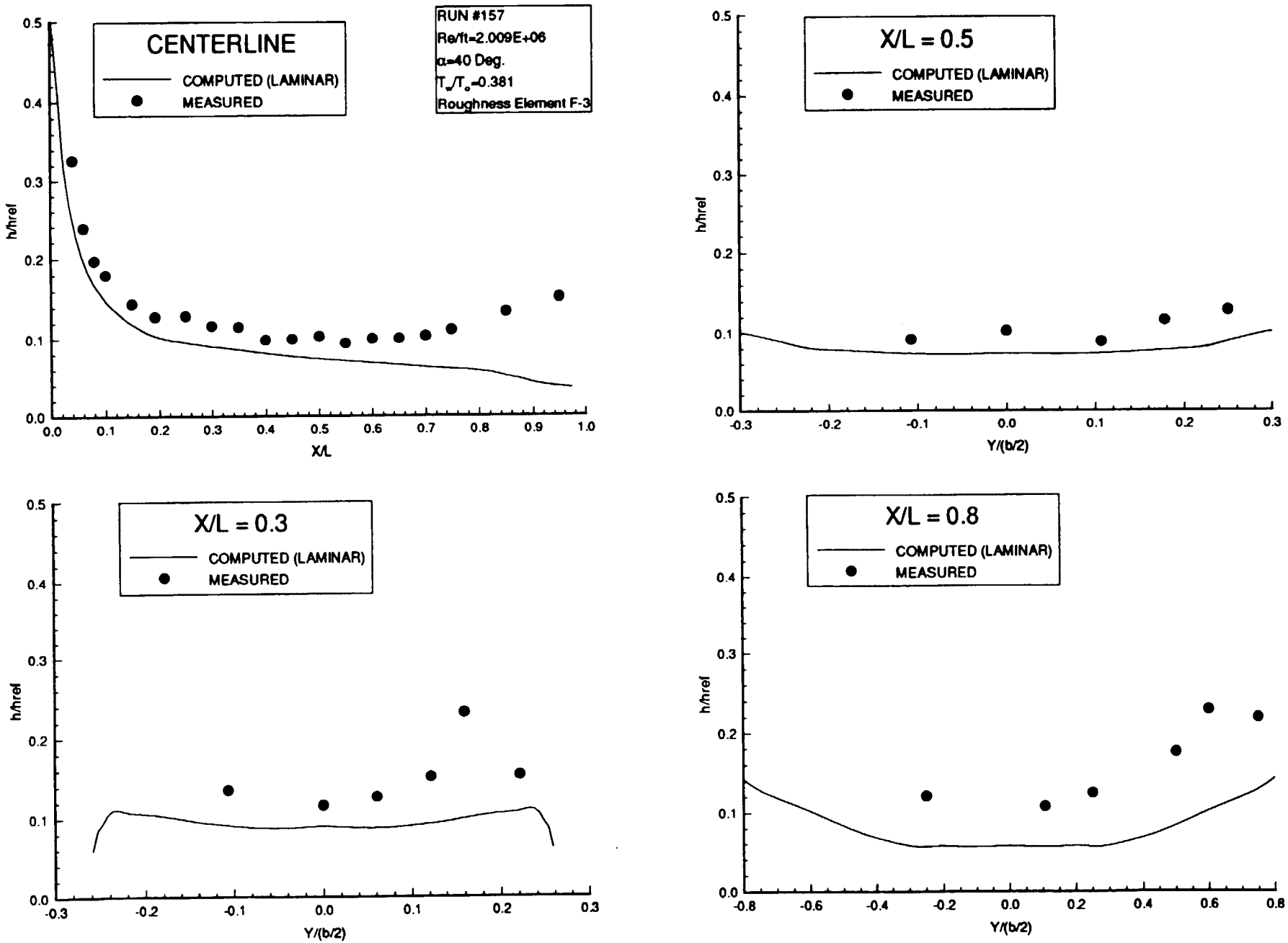

Figure B-152. - Heat Transfer Coefficient Data.

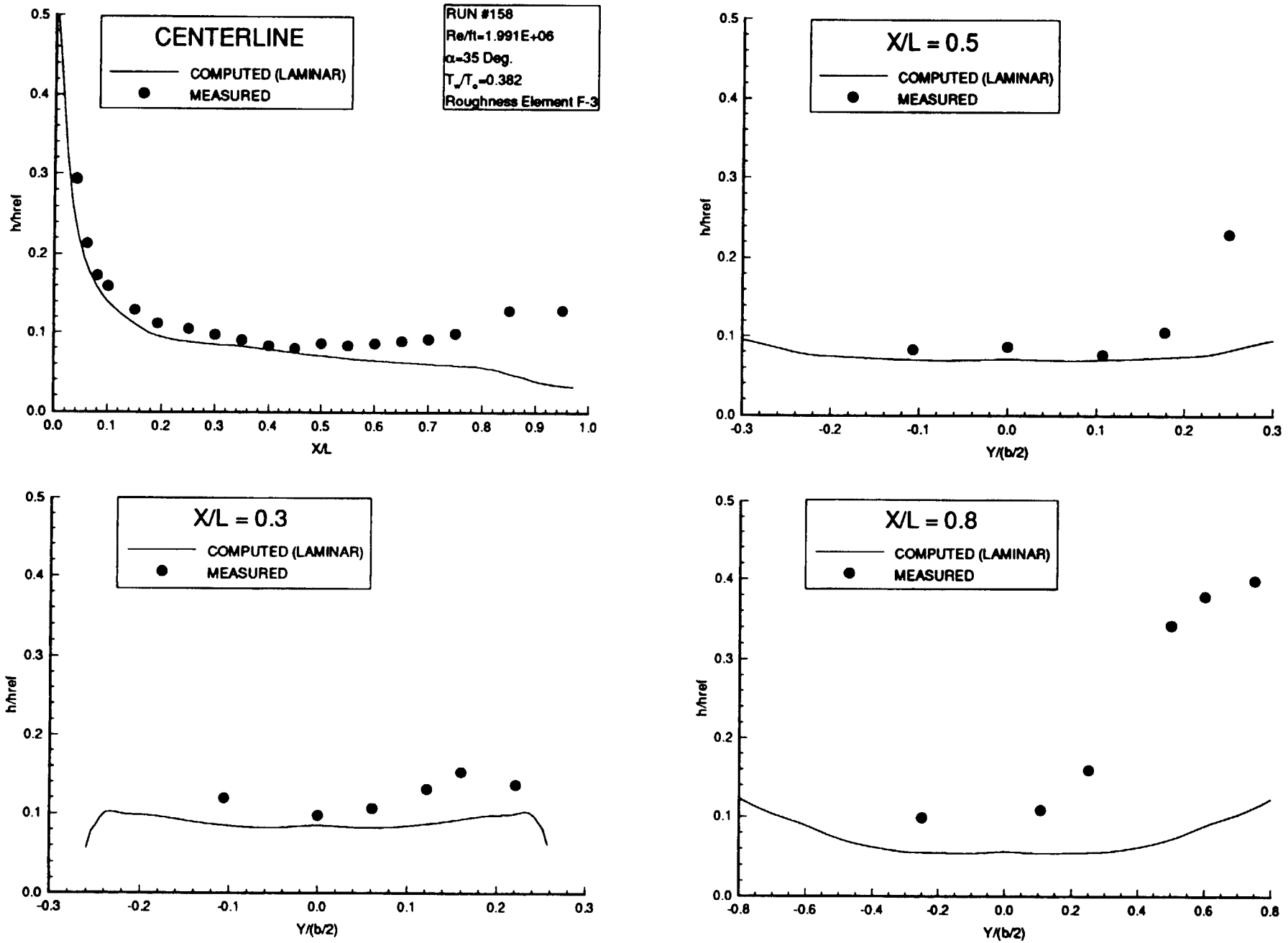

Figure B-153. - Heat Transfer Coefficient Data.

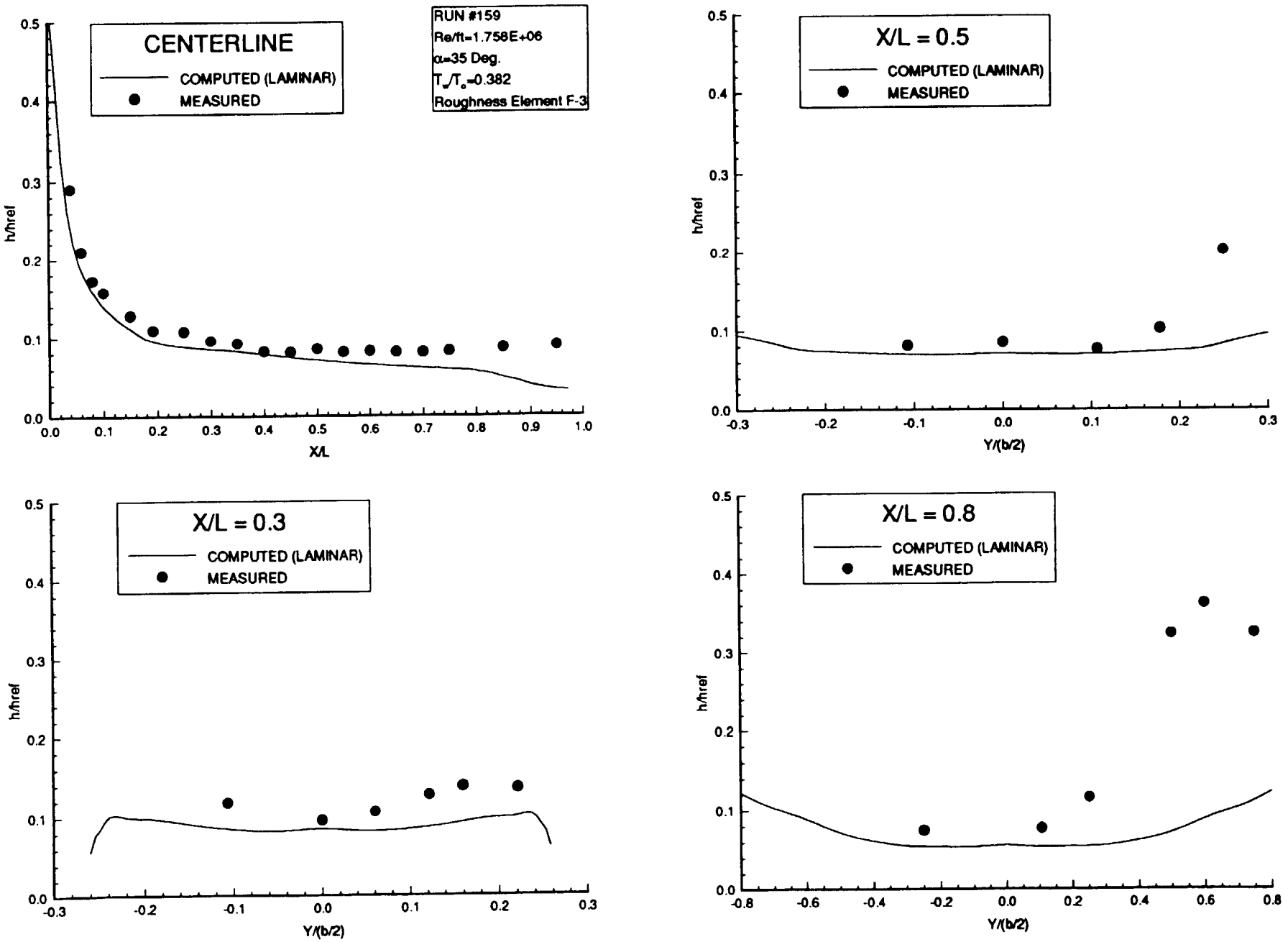

Figure B-154. - Heat Transfer Coefficient Data.

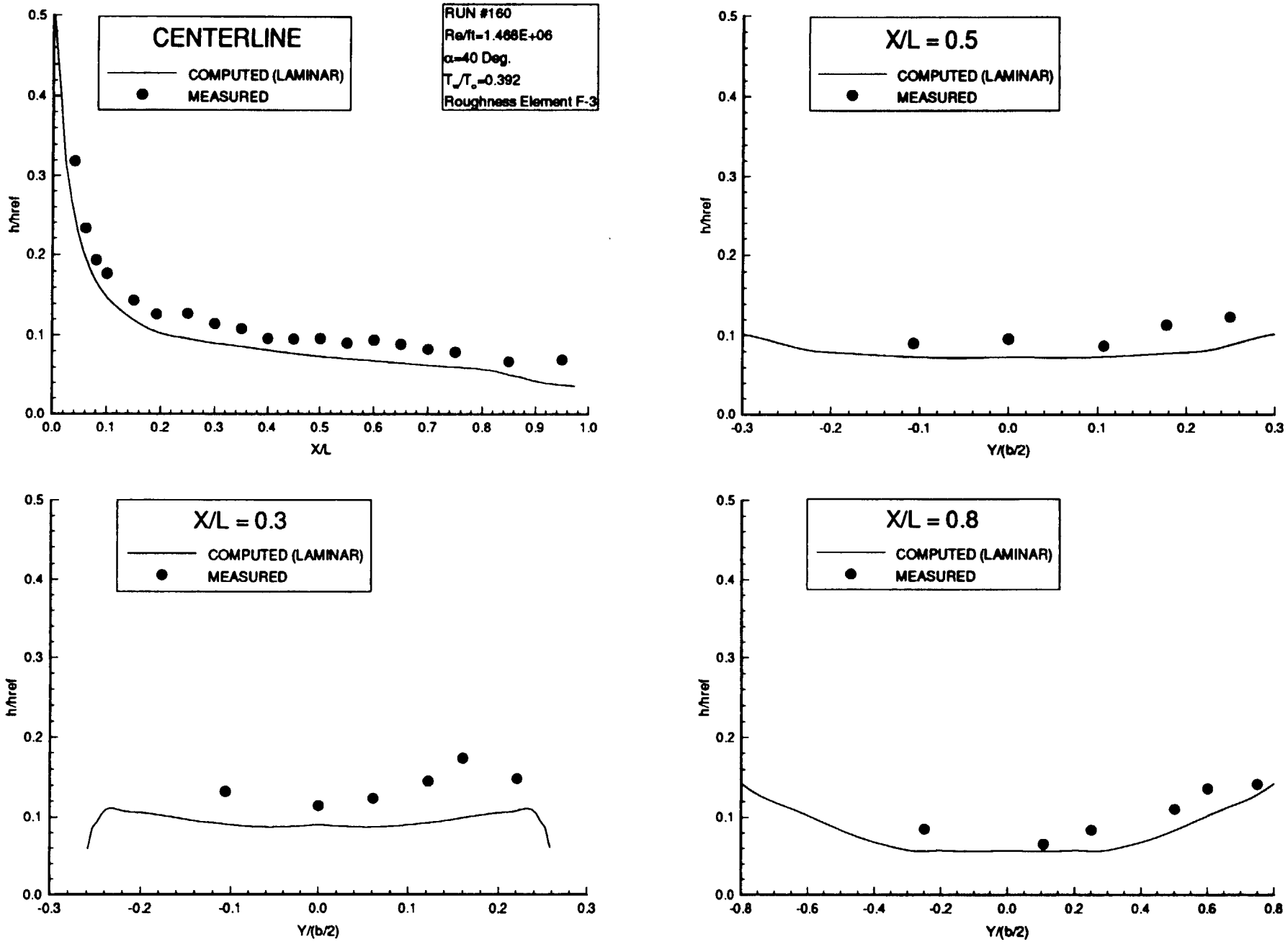

Figure B-155. - Heat Transfer Coefficient Data.

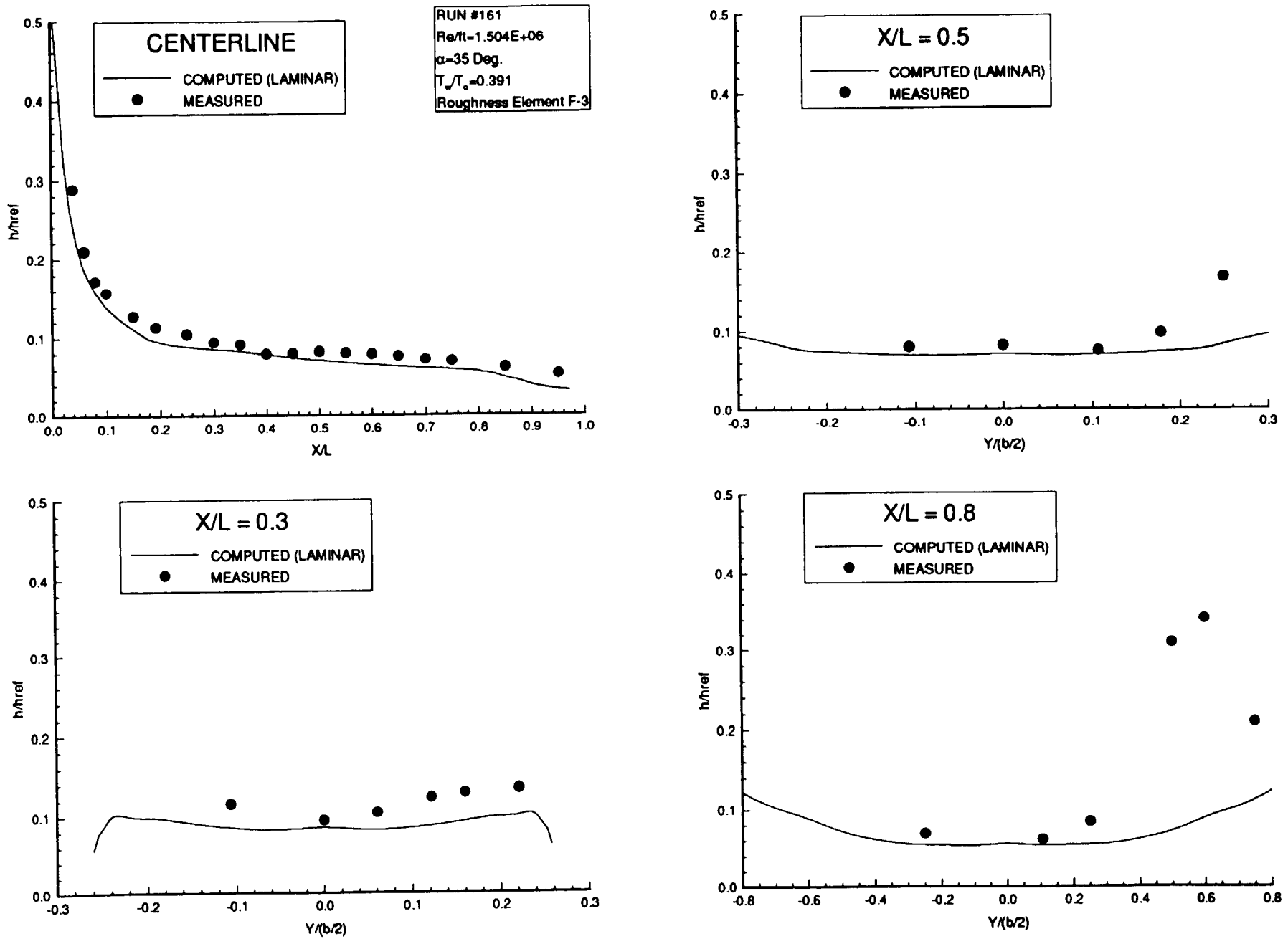

Figure B-156. - Heat Transfer Coefficient Data.

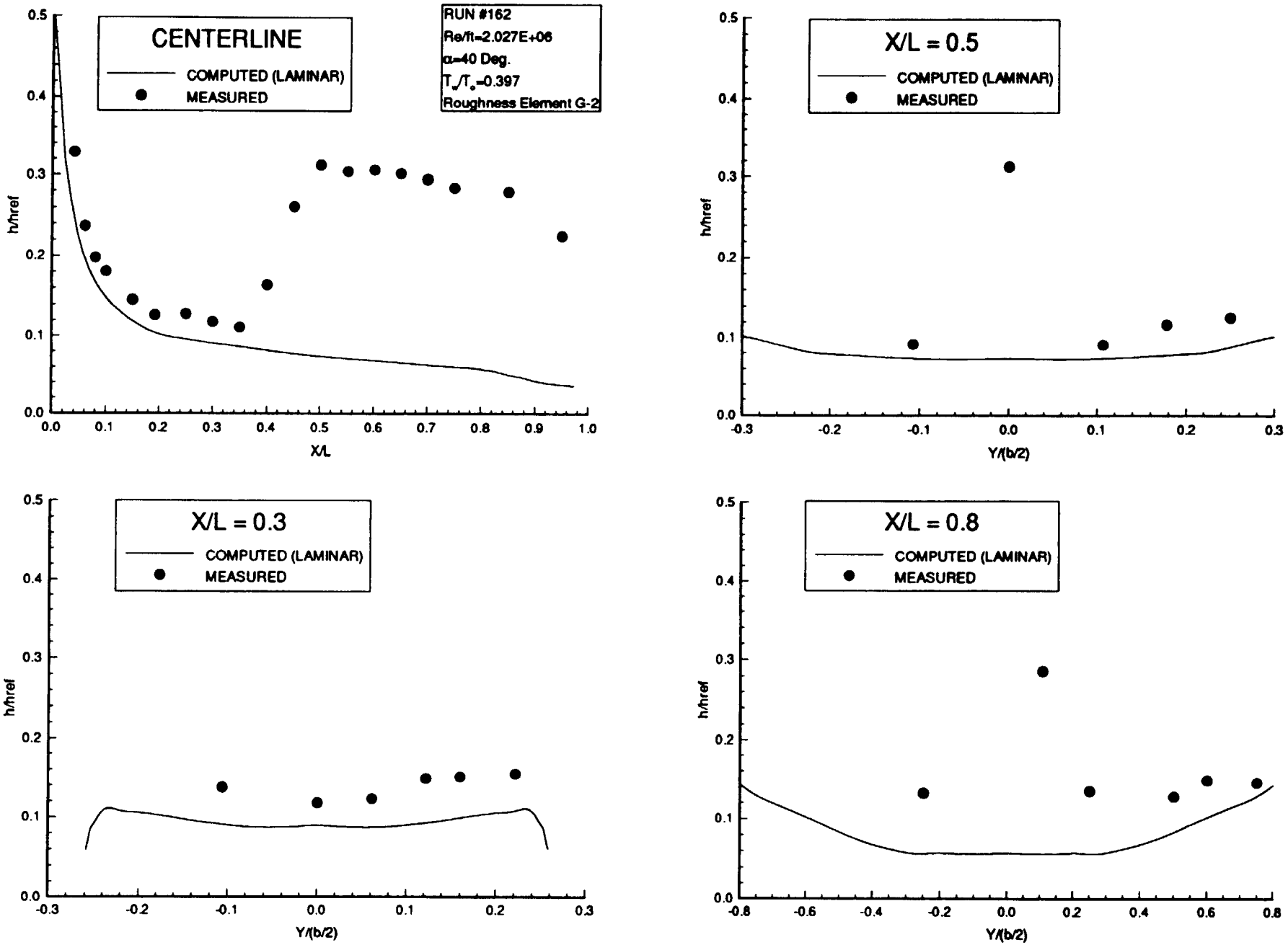

Figure B-157. - Heat Transfer Coefficient Data.

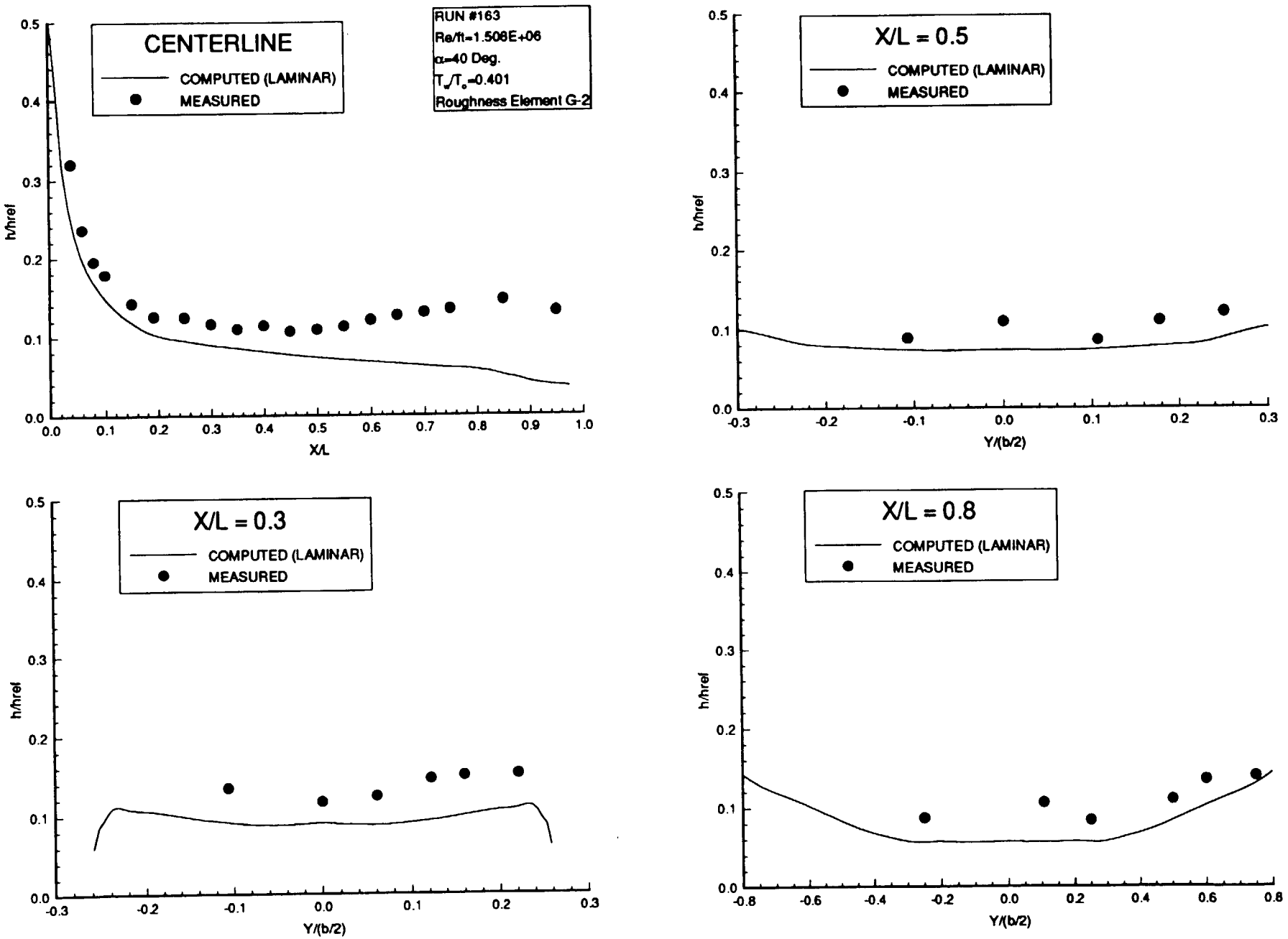

Figure B-158. - Heat Transfer Coefficient Data.

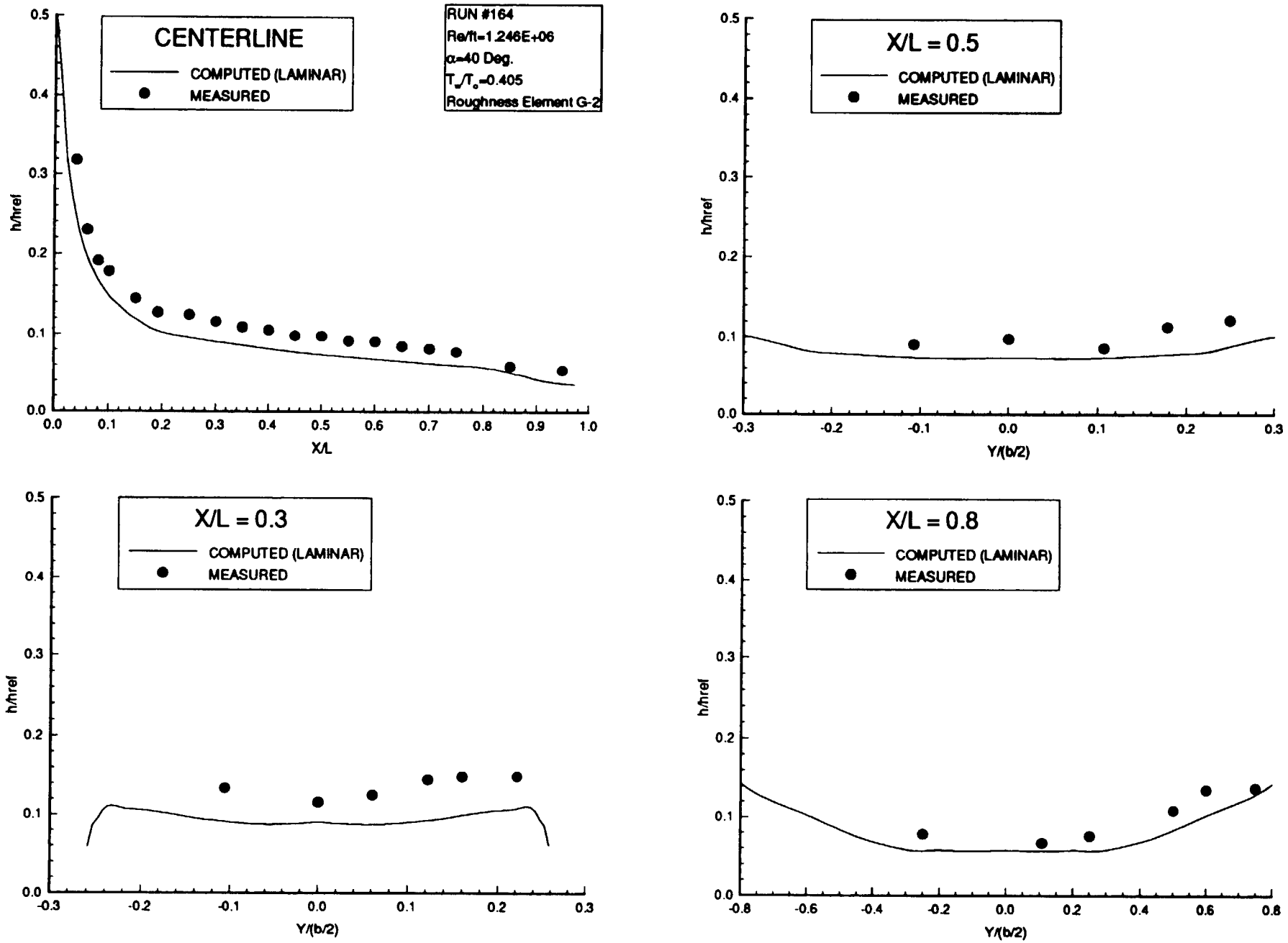

Figure B-159. - Heat Transfer Coefficient Data.

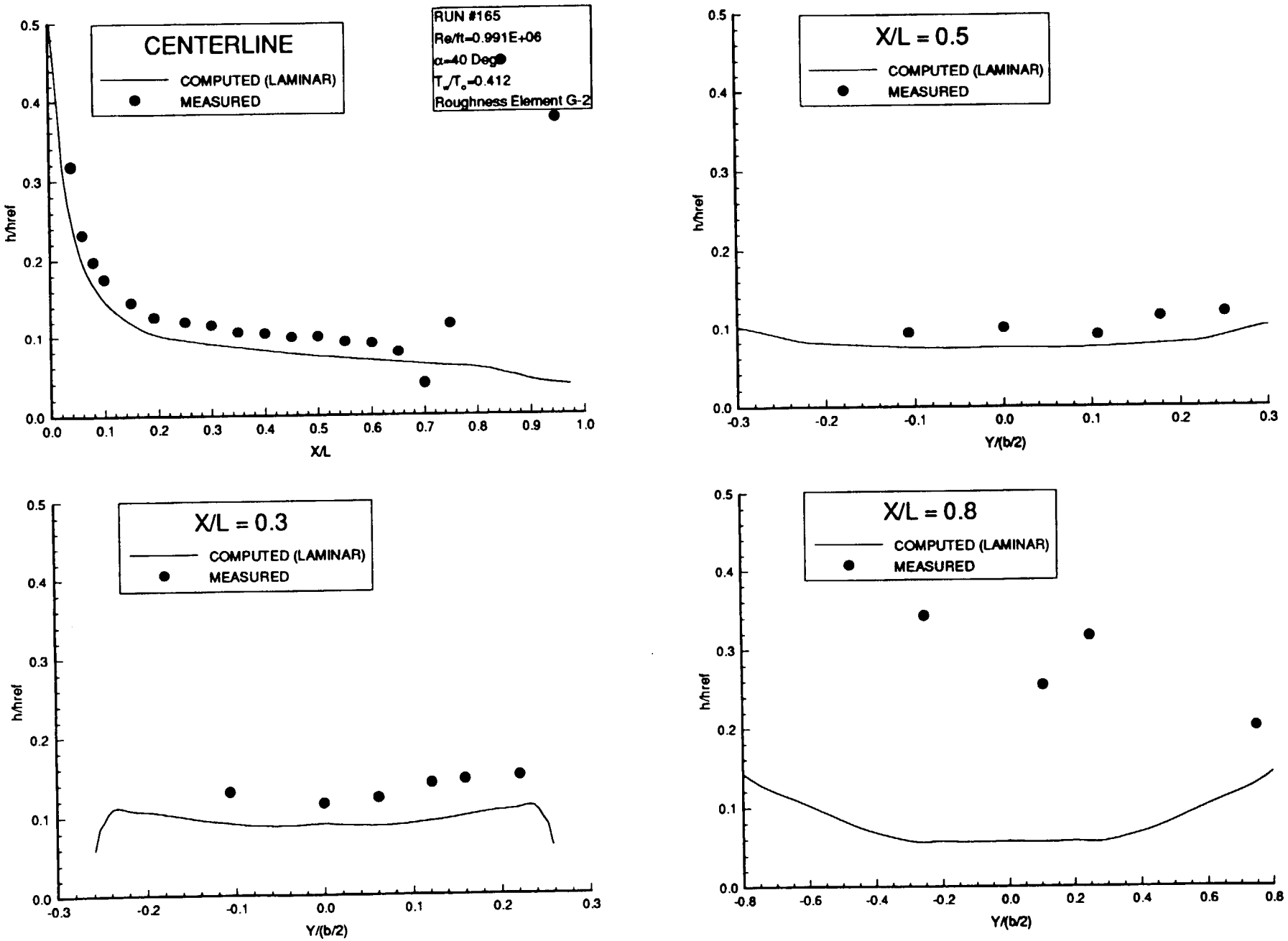

Figure B-160. - Heat Transfer Coefficient Data.

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APPENDIX C

Tabulated Data

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RUN NUMBERS: 2, 3, 11, 12, and 38 - Intentionally left blank

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:50:31
DATE RECORDED: 6-JUN-95
TIME RECORDED: 14:26:05
00001094

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
1	SIR 2	ZERO	29-0	8.01	850.9	1341.67	30.00	9.96	39.96	0.10

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
99.3	0.087	3.899	3914.	7.331E-05	7.988E-08	3.5918E+06	6.759E+06	4.903E-02	0.117

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.91T) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.91T)/ HREF
3	0.040	0.000	272.8	1.322E+01	1.237E-02	1.415E-02	0.2523	0.2885
6	0.060	0.000	247.8	1.017E+01	9.296E-03	1.060E-02	0.1896	0.2161
7	0.080	0.000	232.7	8.841E+00	7.972E-03	9.070E-03	0.1626	0.1850
8	0.100	0.000	243.6	9.735E+00	8.866E-03	1.010E-02	0.1808	0.2060
10	0.150	0.000	263.3	1.161E+01	1.076E-02	1.229E-02	0.2195	0.2507
16	0.192	0.000	277.5	1.475E+01	1.386E-02	1.586E-02	0.2827	0.3235
20	0.250	0.000	286.2	1.702E+01	1.612E-02	1.847E-02	0.3288	0.3767
23	0.300	0.000	273.4	1.628E+01	1.524E-02	1.743E-02	0.3108	0.3554
30	0.350	0.000	277.9	1.625E+01	1.528E-02	1.748E-02	0.3116	0.3565
31	0.400	0.000	274.5	1.626E+01	1.523E-02	1.742E-02	0.3107	0.3554
33	0.450	0.000	283.2	1.708E+01	1.614E-02	1.848E-02	0.3291	0.3769
34	0.500	0.000	282.6	1.713E+01	1.618E-02	1.852E-02	0.3299	0.3778
37	0.550	0.000	281.1	1.685E+01	1.589E-02	1.819E-02	0.3241	0.3710
38	0.600	0.000	291.3	1.773E+01	1.688E-02	1.935E-02	0.3442	0.3946
40	0.650	0.000	289.1	1.677E+01	1.593E-02	1.826E-02	0.3250	0.3724
41	0.700	0.000	286.0	1.653E+01	1.566E-02	1.794E-02	0.3193	0.3658
43	0.750	0.000	280.0	1.643E+01	1.548E-02	1.772E-02	0.3157	0.3614
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	233.6	8.775E+00	7.919E-03	9.010E-03	0.1615	0.1838
11	0.150	0.091	232.1	8.608E+00	7.758E-03	8.825E-03	0.1582	0.1800
17	0.192	0.107	243.4	7.441E+00	6.775E-03	7.718E-03	0.1382	0.1574
87	0.300	-0.106	290.3	1.625E+01	1.546E-02	1.772E-02	0.3152	0.3613
88	0.300	0.061	273.7	1.585E+01	1.484E-02	1.697E-02	0.3027	0.3462
89	0.300	0.122	265.8	1.364E+01	1.268E-02	1.448E-02	0.2585	0.2953
24	0.300	0.160	291.6	1.693E+01	1.613E-02	1.849E-02	0.3289	0.3771
25	0.300	0.221	248.0	8.956E+00	8.190E-03	9.335E-03	0.1670	0.1904
90	0.400	-0.107	283.8	1.498E+01	1.416E-02	1.622E-02	0.2888	0.3307
32	0.400	0.107	278.9	1.663E+01	1.565E-02	1.791E-02	0.3191	0.3653
52	0.400	0.250	300.7	1.568E+01	1.506E-02	1.729E-02	0.3072	0.3527
91	0.425	0.061	272.2	1.624E+01	1.519E-02	1.737E-02	0.3098	0.3542
92	0.425	0.178	293.9	1.714E+01	1.636E-02	1.877E-02	0.3337	0.3827
93	0.500	-0.107	284.0	1.610E+01	1.522E-02	1.743E-02	0.3105	0.3556
35	0.500	0.107	275.8	1.611E+01	1.512E-02	1.730E-02	0.3084	0.3528
94	0.500	0.178	289.1	1.716E+01	1.630E-02	1.868E-02	0.3325	0.3810
53	0.500	0.250	295.9	1.728E+01	1.652E-02	1.895E-02	0.3369	0.3865
95	0.600	-0.250	297.5	1.629E+01	1.560E-02	1.790E-02	0.3182	0.3651
39	0.600	0.107	295.0	1.655E+01	1.581E-02	1.814E-02	0.3225	0.3699

RUN 1

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:50:31
DATE RECORDED: 6-JUN-95
TIME RECORDED: 14:26.05
00001094

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
1	S1R 2	ZERO	29-0	8.01	850.9	1341.67	30.00	9.96	39.96	0.10

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
99.3	0.087	3.899	3914.	7.331E-05	7.988E-08	3.5918E+06	6.759E+06	4.903E-02	0.117

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	306.5	1.740E+01	1.681E-02	1.931E-02	0.3428	0.3938
98	0.660	-0.107	296.4	1.698E+01	1.624E-02	1.863E-02	0.3313	0.3800
96	0.660	0.107	299.9	1.661E+01	1.595E-02	1.830E-02	0.3252	0.3733
97	0.660	0.250	307.0	1.722E+01	1.664E-02	1.912E-02	0.3394	0.3900
60	0.660	0.400	315.2	2.094E+01	2.040E-02	2.347E-02	0.4160	0.4786
65	0.700	0.500	320.0	2.418E+01	2.367E-02	2.725E-02	0.4828	0.5558
99	0.750	0.178	299.6	1.627E+01	1.561E-02	1.792E-02	0.3184	0.3654
100	0.755	0.400	291.9	2.050E+01	1.953E-02	2.239E-02	0.3983	0.4566
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 7.067
PITOT AT CENTER LINE = 8.483

RUN 1

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:50:41
DATE RECORDED: 6-JUN-95
TIME RECORDED: 15:02:21
000010944

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
4	S1R 1	ZERO	29-O	8.01	851.1	1342.67	30.00	9.98	39.98	0.11

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
99.4	0.087	3.900	3915.	7.327E-05	7.995E-08	3.5882E+06	6.752E+06	4.904E-02	0.359

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	556.7	1.217E+01	1.548E-02	1.867E-02	0.3157	0.3807
6	0.060	0.000	542.9	9.173E+00	1.147E-02	1.378E-02	0.2339	0.2810
7	0.080	0.000	531.8	7.642E+00	9.424E-03	1.129E-02	0.1922	0.2303
8	0.100	0.000	527.1	7.247E+00	8.885E-03	1.064E-02	0.1812	0.2169
10	0.150	0.000	515.0	5.784E+00	6.989E-03	8.342E-03	0.1425	0.1701
16	0.192	0.000	510.2	6.162E+00	7.402E-03	8.825E-03	0.1509	0.1799
20	0.250	0.000	506.5	5.346E+00	6.394E-03	7.617E-03	0.1304	0.1553
23	0.300	0.000	506.4	5.413E+00	6.472E-03	7.710E-03	0.1320	0.1572
30	0.350	0.000	508.8	4.788E+00	5.742E-03	6.844E-03	0.1171	0.1396
31	0.400	0.000	513.7	5.764E+00	6.953E-03	8.297E-03	0.1418	0.1692
33	0.450	0.000	547.7	1.293E+01	1.627E-02	1.958E-02	0.3317	0.3991
34	0.500	0.000	555.9	1.435E+01	1.824E-02	2.199E-02	0.3719	0.4484
37	0.550	0.000	557.2	1.429E+01	1.819E-02	2.194E-02	0.3710	0.4474
38	0.600	0.000	566.3	1.502E+01	1.935E-02	2.339E-02	0.3945	0.4770
40	0.650	0.000	565.3	1.364E+01	1.754E-02	2.121E-02	0.3577	0.4324
41	0.700	0.000	565.2	1.308E+01	1.682E-02	2.034E-02	0.3431	0.4147
43	0.750	0.000	561.1	1.269E+01	1.624E-02	1.960E-02	0.3310	0.3997
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	526.3	7.147E+00	8.754E-03	1.048E-02	0.1785	0.2136
11	0.150	0.091	517.1	6.432E+00	7.791E-03	9.304E-03	0.1589	0.1897
17	0.192	0.107	513.8	6.152E+00	7.422E-03	8.857E-03	0.1513	0.1806
87	0.300	-0.106	506.1	5.656E+00	6.761E-03	8.054E-03	0.1379	0.1642
88	0.300	0.061	509.0	5.492E+00	6.587E-03	7.852E-03	0.1343	0.1601
89	0.300	0.122	511.9	6.277E+00	7.555E-03	9.012E-03	0.1541	0.1837
24	0.300	0.160	514.5	6.987E+00	8.438E-03	1.007E-02	0.1720	0.2053
25	0.300	0.221	507.7	6.079E+00	7.280E-03	8.675E-03	0.1484	0.1769
90	0.400	-0.107	512.2	4.682E+00	5.638E-03	6.725E-03	0.1150	0.1371
32	0.400	0.107	512.5	5.193E+00	6.256E-03	7.463E-03	0.1276	0.1522
52	0.400	0.250	521.6	6.730E+00	8.197E-03	9.800E-03	0.1671	0.1998
91	0.425	0.061	516.1	5.161E+00	6.244E-03	7.455E-03	0.1273	0.1520
92	0.425	0.178	520.3	6.378E+00	7.756E-03	9.269E-03	0.1581	0.1890
93	0.500	-0.107	521.1	5.098E+00	6.205E-03	7.417E-03	0.1265	0.1512
35	0.500	0.107	521.9	5.550E+00	6.762E-03	8.085E-03	0.1379	0.1648
94	0.500	0.178	526.6	6.471E+00	7.929E-03	9.490E-03	0.1617	0.1935
53	0.500	0.250	536.7	8.303E+00	1.030E-02	1.236E-02	0.2101	0.2520
95	0.600	-0.250	545.2	6.508E+00	8.161E-03	9.813E-03	0.1664	0.2001
39	0.600	0.107	551.0	9.183E+00	1.160E-02	1.397E-02	0.2365	0.2848

RUN 4

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:50:41
DATE RECORDED: 6-JUN 95
TIME RECORDED: 15:02:21
000010945

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
4	SIR 1	ZERO	29-O	8.01	851.1	1342.67	30.00	9.98	39.98	0.11

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
99.4	0.087	3.900	3915.	7.327E-05	7.995E-08	3.5882E+06	6.752E+06	4.904E-02	0.359

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	552.9	8.500E+00	1.076E-02	1.297E-02	0.2194	0.2644
98	0.660	-0.107	567.2	1.362E+01	1.756E-02	2.124E-02	0.3580	0.4330
96	0.660	0.107	567.1	1.277E+01	1.647E-02	1.992E-02	0.3358	0.4061
97	0.660	0.250	562.8	1.008E+01	1.293E-02	1.562E-02	0.2636	0.3185
60	0.660	0.400	576.8	1.339E+01	1.748E-02	2.119E-02	0.3564	0.4321
65	0.700	0.500	584.7	1.540E+01	2.031E-02	2.469E-02	0.4142	0.5034
99	0.750	0.178	566.7	1.276E+01	1.644E-02	1.988E-02	0.3353	0.4054
100	0.755	0.400	577.7	1.453E+01	1.900E-02	2.304E-02	0.3873	0.4698
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 7.068
PITOT AT CENTER LINE = 8.309

RUN 4

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:50:45
DATE RECORDED: 6-JUN-95
TIME RECORDED: 15:18:52
000010946

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
5	S1R 3	ZERO	29-0	8.00	702.7	1334.67	30.00	9.97	39.97	0.18

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.9	0.072	3.228	3901.	6.110E-05	7.959E-08	2.9946E+06	5.635E+06	4.458E-02	0.375

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	560.7	1.096E+01	1.416E-02	1.712E-02	0.3178	0.3840
6	0.060	0.000	548.9	8.238E+00	1.048E-02	1.263E-02	0.2352	0.2833
7	0.080	0.000	541.0	6.812E+00	8.582E-03	1.032E-02	0.1925	0.2315
8	0.100	0.000	537.5	6.363E+00	7.982E-03	9.587E-03	0.1791	0.2151
10	0.150	0.000	529.4	5.038E+00	6.256E-03	7.499E-03	0.1404	0.1682
16	0.192	0.000	526.6	5.253E+00	6.501E-03	7.788E-03	0.1458	0.1747
20	0.250	0.000	523.4	4.549E+00	5.607E-03	6.712E-03	0.1258	0.1506
23	0.300	0.000	522.0	4.484E+00	5.517E-03	6.602E-03	0.1238	0.1481
30	0.350	0.000	519.9	3.901E+00	4.788E-03	5.726E-03	0.1074	0.1285
31	0.400	0.000	520.2	4.128E+00	5.068E-03	6.061E-03	0.1137	0.1360
33	0.450	0.000	543.8	9.290E+00	1.175E-02	1.413E-02	0.2635	0.3170
34	0.500	0.000	553.3	1.125E+01	1.440E-02	1.737E-02	0.3231	0.3897
37	0.550	0.000	556.4	1.163E+01	1.494E-02	1.804E-02	0.3353	0.4047
38	0.600	0.000	564.4	1.203E+01	1.561E-02	1.888E-02	0.3502	0.4236
40	0.650	0.000	566.3	1.129E+01	1.470E-02	1.779E-02	0.3297	0.3990
41	0.700	0.000	568.6	1.077E+01	1.405E-02	1.702E-02	0.3153	0.3818
43	0.750	0.000	565.8	1.055E+01	1.372E-02	1.660E-02	0.3077	0.3724
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	537.1	6.307E+00	7.908E-03	9.497E-03	0.1774	0.2131
11	0.150	0.091	531.4	5.818E+00	7.243E-03	8.686E-03	0.1625	0.1949
17	0.192	0.107	528.3	5.392E+00	6.687E-03	8.013E-03	0.1500	0.1798
87	0.300	-0.106	523.8	5.053E+00	6.232E-03	7.460E-03	0.1398	0.1674
88	0.300	0.061	523.0	4.480E+00	5.520E-03	6.606E-03	0.1238	0.1482
89	0.300	0.122	525.6	5.248E+00	6.486E-03	7.768E-03	0.1455	0.1743
24	0.300	0.160	525.6	5.488E+00	6.783E-03	8.123E-03	0.1522	0.1822
25	0.300	0.221	523.6	5.323E+00	6.563E-03	7.856E-03	0.1472	0.1762
90	0.400	-0.107	520.4	4.027E+00	4.946E-03	5.915E-03	0.1109	0.1327
32	0.400	0.107	520.1	3.969E+00	4.873E-03	5.828E-03	0.1093	0.1307
52	0.400	0.250	524.3	4.745E+00	5.855E-03	7.009E-03	0.1313	0.1572
91	0.425	0.061	521.6	3.868E+00	4.757E-03	5.691E-03	0.1067	0.1277
92	0.425	0.178	526.0	4.802E+00	5.939E-03	7.112E-03	0.1332	0.1596
93	0.500	-0.107	524.4	3.721E+00	4.592E-03	5.498E-03	0.1030	0.1233
35	0.500	0.107	523.6	3.542E+00	4.367E-03	5.227E-03	0.0980	0.1173
94	0.500	0.178	528.2	4.453E+00	5.521E-03	6.616E-03	0.1239	0.1484
53	0.500	0.250	530.7	4.893E+00	6.087E-03	7.298E-03	0.1365	0.1637
95	0.600	-0.250	546.9	4.370E+00	5.547E-03	6.678E-03	0.1244	0.1498
39	0.600	0.107	548.6	5.466E+00	6.954E-03	8.376E-03	0.1560	0.1879

RUN 5

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:50:45
DATE RECORDED: 6-JUN-95
TIME RECORDED: 15:18:52
000010947

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
5	S1R 3	ZERO	29-0	8.00	702.7	1334.67	30.00	9.97	39.97	0.18

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.9	0.072	3.228	3901.	6.110E-05	7.959E-08	2.9946E+06	5.635E+06	4.458E-02	0.375

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	551.3	5.221E+00	6.664E-03	8.033E-03	0.1495	0.1802
98	0.660	-0.107	570.4	1.136E+01	1.486E-02	1.801E-02	0.3334	0.4039
96	0.660	0.107	566.1	8.663E+00	1.127E-02	1.364E-02	0.2529	0.3060
97	0.660	0.250	560.0	5.868E+00	7.575E-03	9.151E-03	0.1699	0.2053
60	0.660	0.400	566.1	6.289E+00	8.183E-03	9.902E-03	0.1836	0.2221
65	0.700	0.500	573.0	7.120E+00	9.348E-03	1.133E-02	0.2097	0.2543
99	0.750	0.178	569.2	8.943E+00	1.168E-02	1.415E-02	0.2621	0.3174
100	0.755	0.400	573.6	8.446E+00	1.110E-02	1.346E-02	0.2490	0.3019
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 5.862
PITOT AT CENTER LINE = 7.518

RUN 5

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:50:48
DATE RECORDED: 6-JUN-95
TIME RECORDED: 15:39:43
000010948

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
6	S1R 5	ZERO	29-0	7.99	576.6	1323.67	30.00	9.97	39.97	0.11

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.059	2.658	3882.	5.079E-05	7.905E-08	2.4941E+06	4.693E+06	4.039E-02	0.387

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	562.6	9.708E+00	1.276E-02	1.544E-02	0.3158	0.3823
6	0.060	0.000	551.9	7.269E+00	9.417E-03	1.137E-02	0.2332	0.2814
7	0.080	0.000	544.5	6.004E+00	7.705E-03	9.282E-03	0.1908	0.2298
8	0.100	0.000	542.1	5.686E+00	7.275E-03	8.759E-03	0.1801	0.2169
10	0.150	0.000	536.0	4.428E+00	5.622E-03	6.758E-03	0.1392	0.1673
16	0.192	0.000	533.9	4.508E+00	5.708E-03	6.857E-03	0.1413	0.1698
20	0.250	0.000	531.6	3.939E+00	4.973E-03	5.971E-03	0.1231	0.1478
23	0.300	0.000	530.0	3.858E+00	4.861E-03	5.834E-03	0.1203	0.1444
30	0.350	0.000	528.9	3.503E+00	4.408E-03	5.289E-03	0.1091	0.1309
31	0.400	0.000	527.6	3.190E+00	4.008E-03	4.807E-03	0.0992	0.1190
33	0.450	0.000	537.8	5.283E+00	6.723E-03	8.085E-03	0.1665	0.2002
34	0.500	0.000	552.0	8.396E+00	1.088E-02	1.313E-02	0.2694	0.3251
37	0.550	0.000	560.6	9.970E+00	1.307E-02	1.581E-02	0.3235	0.3914
38	0.600	0.000	570.2	1.075E+01	1.426E-02	1.730E-02	0.3532	0.4284
40	0.650	0.000	570.9	9.702E+00	1.289E-02	1.564E-02	0.3191	0.3872
41	0.700	0.000	572.5	9.257E+00	1.232E-02	1.496E-02	0.3051	0.3704
43	0.750	0.000	568.2	8.945E+00	1.184E-02	1.436E-02	0.2932	0.3554
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	542.5	5.615E+00	7.188E-03	8.655E-03	0.1780	0.2143
11	0.150	0.091	537.1	5.163E+00	6.563E-03	7.891E-03	0.1625	0.1954
17	0.192	0.107	536.3	4.773E+00	6.062E-03	7.287E-03	0.1501	0.1804
87	0.300	-0.106	531.6	4.465E+00	5.637E-03	6.769E-03	0.1396	0.1676
88	0.300	0.061	531.4	3.903E+00	4.927E-03	5.915E-03	0.1220	0.1464
89	0.300	0.122	533.5	4.607E+00	5.830E-03	7.004E-03	0.1444	0.1734
24	0.300	0.160	533.2	4.938E+00	6.247E-03	7.503E-03	0.1547	0.1858
25	0.300	0.221	531.8	4.732E+00	5.976E-03	7.175E-03	0.1479	0.1776
90	0.400	-0.107	529.6	3.477E+00	4.379E-03	5.255E-03	0.1084	0.1301
32	0.400	0.107	528.7	3.448E+00	4.338E-03	5.205E-03	0.1074	0.1289
52	0.400	0.250	533.1	4.154E+00	5.254E-03	6.310E-03	0.1301	0.1562
91	0.425	0.061	529.9	3.281E+00	4.134E-03	4.961E-03	0.1024	0.1228
92	0.425	0.178	533.8	4.171E+00	5.280E-03	6.343E-03	0.1307	0.1571
93	0.500	-0.107	532.9	3.040E+00	3.844E-03	4.617E-03	0.0952	0.1143
35	0.500	0.107	531.6	2.890E+00	3.650E-03	4.382E-03	0.0904	0.1085
94	0.500	0.178	535.7	3.696E+00	4.691E-03	5.638E-03	0.1161	0.1396
53	0.500	0.250	537.2	4.048E+00	5.147E-03	6.189E-03	0.1274	0.1532
95	0.600	-0.250	550.6	3.481E+00	4.503E-03	5.433E-03	0.1115	0.1345
39	0.600	0.107	549.8	3.659E+00	4.728E-03	5.704E-03	0.1171	0.1412

RUN 6

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:50:48
DATE RECORDED: 6-JUN-95
TIME RECORDED: 15:39:43
000010949

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
6	S1R 5	ZERO	29-O	7.99	576.6	1323.67	30.00	9.97	39.97	0.11

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.059	2.658	3882	5.079E-05	7.905E-08	2.4941E+06	4.693E+06	4.039E-02	0.387

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	552.7	3.791E+00	4.918E-03	5.937E-03	0.1218	0.1470
98	0.660	-0.107	569.2	8.865E+00	1.175E-02	1.425E-02	0.2909	0.3528
96	0.660	0.107	562.4	5.145E+00	6.759E-03	8.181E-03	0.1673	0.2026
97	0.660	0.250	558.7	3.693E+00	4.827E-03	5.837E-03	0.1195	0.1445
60	0.660	0.400	563.9	4.445E+00	5.851E-03	7.085E-03	0.1449	0.1754
65	0.700	0.500	569.7	4.997E+00	6.628E-03	8.040E-03	0.1641	0.1991
99	0.750	0.178	564.8	5.177E+00	6.823E-03	8.264E-03	0.1689	0.2046
100	0.755	0.400	568.7	4.973E+00	6.587E-03	7.988E-03	0.1631	0.1978
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 4.822
PITOT AT CENTER LINE = 5.488

RUN 6

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:50:51
DATE RECORDED: 6-JUN-95
TIME RECORDED: 15:54:07
000010950

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
7	S1R 7	ZERO	29-O	7.98	456.5	1314.67	30.00	9.97	39.97	0.18

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.8	0.047	2.114	3866.	4.073E-05	7.868E-08	2.0015E+06	3.766E+06	3.598E-02	0.395

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	564.9	8.528E+00	1.137E-02	1.379E-02	0.3161	0.3833
6	0.060	0.000	555.3	6.443E+00	8.485E-03	1.026E-02	0.2358	0.2852
7	0.080	0.000	548.5	5.329E+00	6.956E-03	8.397E-03	0.1933	0.2333
8	0.100	0.000	546.2	4.946E+00	6.436E-03	7.764E-03	0.1789	0.2158
10	0.150	0.000	540.6	3.932E+00	5.079E-03	6.118E-03	0.1412	0.1700
16	0.192	0.000	538.3	3.947E+00	5.084E-03	6.120E-03	0.1413	0.1701
20	0.250	0.000	536.2	3.497E+00	4.493E-03	5.405E-03	0.1249	0.1502
23	0.300	0.000	534.6	3.393E+00	4.350E-03	5.231E-03	0.1209	0.1454
30	0.350	0.000	534.2	3.022E+00	3.872E-03	4.657E-03	0.1076	0.1294
31	0.400	0.000	532.6	2.750E+00	3.516E-03	4.226E-03	0.0977	0.1175
33	0.450	0.000	536.1	2.869E+00	3.684E-03	4.433E-03	0.1024	0.1232
34	0.500	0.000	540.4	4.024E+00	5.197E-03	6.260E-03	0.1444	0.1740
37	0.550	0.000	547.1	4.514E+00	5.881E-03	7.097E-03	0.1634	0.1972
38	0.600	0.000	559.6	6.358E+00	8.419E-03	1.019E-02	0.2340	0.2833
40	0.650	0.000	568.0	6.603E+00	8.843E-03	1.073E-02	0.2458	0.2983
41	0.700	0.000	572.2	6.999E+00	9.427E-03	1.146E-02	0.2620	0.3184
43	0.750	0.000	569.3	7.040E+00	9.445E-03	1.147E-02	0.2625	0.3187
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	546.6	4.906E+00	6.387E-03	7.706E-03	0.1775	0.2142
11	0.150	0.091	541.2	4.521E+00	5.845E-03	7.042E-03	0.1624	0.1957
17	0.192	0.107	540.6	4.174E+00	5.392E-03	6.495E-03	0.1498	0.1805
87	0.300	-0.106	535.9	3.929E+00	5.045E-03	6.070E-03	0.1402	0.1687
88	0.300	0.061	536.5	3.381E+00	4.345E-03	5.228E-03	0.1207	0.1453
89	0.300	0.122	538.3	4.132E+00	5.322E-03	6.407E-03	0.1479	0.1781
24	0.300	0.160	537.7	4.310E+00	5.547E-03	6.677E-03	0.1542	0.1856
25	0.300	0.221	536.3	4.052E+00	5.206E-03	6.264E-03	0.1447	0.1741
90	0.400	-0.107	534.6	3.112E+00	3.989E-03	4.798E-03	0.1109	0.1333
32	0.400	0.107	534.0	2.978E+00	3.815E-03	4.587E-03	0.1060	0.1275
52	0.400	0.250	537.0	3.644E+00	4.686E-03	5.640E-03	0.1302	0.1567
91	0.425	0.061	535.0	2.812E+00	3.606E-03	4.338E-03	0.1002	0.1206
92	0.425	0.178	538.0	3.682E+00	4.741E-03	5.707E-03	0.1318	0.1586
93	0.500	-0.107	537.8	2.598E+00	3.344E-03	4.025E-03	0.0929	0.1119
35	0.500	0.107	536.7	2.450E+00	3.150E-03	3.790E-03	0.0875	0.1053
94	0.500	0.178	540.0	3.170E+00	4.092E-03	4.928E-03	0.1137	0.1370
53	0.500	0.250	541.3	3.501E+00	4.527E-03	5.454E-03	0.1258	0.1516
95	0.600	-0.250	550.1	2.860E+00	3.740E-03	4.517E-03	0.1040	0.1255
39	0.600	0.107	549.5	2.812E+00	3.675E-03	4.437E-03	0.1021	0.1233

RUN 7

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:50:51
DATE RECORDED: 6-JUN 95
TIME RECORDED: 15:54.07
000010951

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
7	S1R 7	ZERO	29-0	7.98	456.5	1314.67	30.00	9.97	39.97	0.18

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.8	0.047	2.114	3866.	4.073E-05	7.868E-08	2.0015E+06	3.766E+06	3.598E-02	0.395

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	552.2	3.115E+00	4.085E-03	4.936E-03	0.1135	0.1372
98	0.660	-0.107	560.1	3.613E+00	4.788E-03	5.798E-03	0.1331	0.1611
96	0.660	0.107	562.0	3.402E+00	4.519E-03	5.476E-03	0.1256	0.1522
97	0.660	0.250	560.0	2.704E+00	3.583E-03	4.339E-03	0.0996	0.1206
60	0.660	0.400	566.5	3.589E+00	4.797E-03	5.820E-03	0.1333	0.1617
65	0.700	0.500	572.6	4.024E+00	5.423E-03	6.590E-03	0.1507	0.1832
99	0.750	0.178	565.4	3.181E+00	4.246E-03	5.150E-03	0.1180	0.1431
100	0.755	0.400	571.1	3.266E+00	4.392E-03	5.335E-03	0.1221	0.1483
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 3.857
PITOT AT CENTER LINE = 3.911

RUN 7

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:50:55
DATE RECORDED: 6-JUN-95
TIME RECORDED: 16:11:54
00001095

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
8	SIR 9	ZERO	29-0	7.96	332.3	1289.67	30.00	9.96	39.96	0.22

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.1	0.035	1.551	3826.	3.052E-05	7.737E-08	1.5092E+06	2.840E+06	3.072E-02	0.407

CO-AXIAL DATA

GAGE NO	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	560.5	7.103E+00	9.741E-03	1.183E-02	0.3171	0.3852
6	0.060	0.000	552.7	5.385E+00	7.308E-03	8.858E-03	0.2379	0.2883
7	0.080	0.000	546.9	4.434E+00	5.969E-03	7.223E-03	0.1943	0.2351
8	0.100	0.000	545.4	4.143E+00	5.567E-03	6.733E-03	0.1812	0.2192
10	0.150	0.000	541.5	3.270E+00	4.371E-03	5.281E-03	0.1423	0.1719
16	0.192	0.000	539.6	3.276E+00	4.368E-03	5.275E-03	0.1422	0.1717
20	0.250	0.000	538.7	2.874E+00	3.827E-03	4.620E-03	0.1246	0.1504
23	0.300	0.000	537.1	2.776E+00	3.689E-03	4.452E-03	0.1201	0.1449
30	0.350	0.000	537.6	2.507E+00	3.334E-03	4.024E-03	0.1085	0.1310
31	0.400	0.000	535.8	2.287E+00	3.034E-03	3.660E-03	0.0988	0.1191
33	0.450	0.000	538.4	2.234E+00	2.974E-03	3.590E-03	0.0968	0.1169
34	0.500	0.000	*****	********	********	********	******	******
37	0.550	0.000	542.8	2.213E+00	2.963E-03	3.581E-03	0.0965	0.1166
38	0.600	0.000	550.2	2.429E+00	3.285E-03	3.979E-03	0.1069	0.1295
40	0.650	0.000	556.6	2.134E+00	2.911E-03	3.532E-03	0.0947	0.1150
41	0.700	0.000	559.8	2.001E+00	2.741E-03	3.330E-03	0.0892	0.1084
43	0.750	0.000	557.3	2.011E+00	2.746E-03	3.333E-03	0.0894	0.1085
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	546.2	4.090E+00	5.501E-03	6.656E-03	0.1791	0.2167
11	0.150	0.091	541.7	3.726E+00	4.982E-03	6.020E-03	0.1622	0.1960
17	0.192	0.107	541.9	3.464E+00	4.632E-03	5.598E-03	0.1508	0.1822
87	0.300	-0.106	538.1	3.244E+00	4.316E-03	5.210E-03	0.1405	0.1696
88	0.300	0.061	539.2	2.835E+00	3.777E-03	4.561E-03	0.1229	0.1485
89	0.300	0.122	540.5	3.366E+00	4.493E-03	5.427E-03	0.1463	0.1767
24	0.300	0.160	539.8	3.501E+00	4.668E-03	5.638E-03	0.1520	0.1835
25	0.300	0.221	538.7	3.342E+00	4.451E-03	5.373E-03	0.1449	0.1749
90	0.400	-0.107	537.6	2.588E+00	3.442E-03	4.154E-03	0.1120	0.1352
32	0.400	0.107	537.1	2.486E+00	3.303E-03	3.987E-03	0.1075	0.1298
52	0.400	0.250	539.7	3.011E+00	4.015E-03	4.849E-03	0.1307	0.1578
91	0.425	0.061	538.2	2.324E+00	3.093E-03	3.733E-03	0.1007	0.1215
92	0.425	0.178	540.0	2.971E+00	3.963E-03	4.786E-03	0.1290	0.1558
93	0.500	-0.107	540.0	2.123E+00	2.832E-03	3.420E-03	0.0922	0.1113
35	0.500	0.107	539.1	2.000E+00	2.664E-03	3.217E-03	0.0867	0.1047
94	0.500	0.178	541.7	2.620E+00	3.503E-03	4.233E-03	0.1140	0.1378
53	0.500	0.250	542.9	2.887E+00	3.866E-03	4.673E-03	0.1259	0.1521
95	0.600	-0.250	549.9	2.264E+00	3.060E-03	3.707E-03	0.0996	0.1207
39	0.600	0.107	549.1	2.139E+00	2.888E-03	3.497E-03	0.0940	0.1138

RUN 8

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:50 55
DATE RECORDED: 6-JUN 95
TIME RECORDED: 16:11 54
000010953

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
8	S1R 9	ZERO	29-0	7.96	332.3	1289.67	30.00	9.96	39.96	0.22

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.1	0.035	1.551	3826.	3.052E-05	7.737E-08	1.5092E+06	2.840E+06	3.072E-02	0.407

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	551.5	2.436E+00	3.299E-03	3.998E-03	0.1074	0.1301
98	0.660	-0.107	556.7	2.141E+00	2.921E-03	3.545E-03	0.0951	0.1154
96	0.660	0.107	559.3	2.494E+00	3.415E-03	4.147E-03	0.1112	0.1350
97	0.660	0.250	558.2	2.028E+00	2.772E-03	3.365E-03	0.0902	0.1095
60	0.660	0.400	563.4	2.770E+00	3.814E-03	4.638E-03	0.1242	0.1510
65	0.700	0.500	567.7	3.245E+00	4.494E-03	5.471E-03	0.1463	0.1781
99	0.750	0.178	561.1	1.755E+00	2.409E-03	2.927E-03	0.0784	0.0953
100	0.755	0.400	565.0	1.888E+00	2.605E-03	3.169E-03	0.0848	0.1032
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 2.845
PITOT AT CENTER LINE = 3.149

RUN 8

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:50:58
DATE RECORDED: 6-JUN-95
TIME RECORDED: 16:27:35
0000010954

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
9	SIR11	ZERO	29-O	7.93	206.3	1253.67	30.00	9.96	39.96	0.22

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.8	0.022	0.975	3767.	1.980E-05	7.551E-08	9.8750E+05	1.858E+06	2.424E-02	0.422

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	556.6	5.292E+00	7.591E-03	9.256E-03	0.3131	0.3818
6	0.060	0.000	550.5	4.002E+00	5.691E-03	6.925E-03	0.2347	0.2857
7	0.080	0.000	545.3	3.325E+00	4.693E-03	5.703E-03	0.1936	0.2352
8	0.100	0.000	544.3	3.059E+00	4.312E-03	5.238E-03	0.1779	0.2161
10	0.150	0.000	541.7	2.422E+00	3.402E-03	4.129E-03	0.1403	0.1703
16	0.192	0.000	539.4	2.387E+00	3.341E-03	4.052E-03	0.1378	0.1672
20	0.250	0.000	539.2	2.111E+00	2.954E-03	3.583E-03	0.1219	0.1478
23	0.300	0.000	537.3	2.032E+00	2.836E-03	3.438E-03	0.1170	0.1418
30	0.350	0.000	538.7	1.881E+00	2.631E-03	3.191E-03	0.1085	0.1316
31	0.400	0.000	536.7	1.691E+00	2.358E-03	2.858E-03	0.0973	0.1179
33	0.450	0.000	539.0	1.644E+00	2.300E-03	2.790E-03	0.0949	0.1151
34	0.500	0.000	*****	********	********	********	******	******
37	0.550	0.000	543.4	1.584E+00	2.230E-03	2.708E-03	0.0920	0.1117
38	0.600	0.000	548.7	1.701E+00	2.413E-03	2.935E-03	0.0996	0.1211
40	0.650	0.000	553.7	1.301E+00	1.859E-03	2.265E-03	0.0767	0.0934
41	0.700	0.000	555.2	6.870E-01	9.835E-04	1.199E-03	0.0406	0.0494
43	0.750	0.000	556.8	2.410E+00	3.458E-03	4.217E-03	0.1427	0.1739
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	545.5	3.040E+00	4.293E-03	5.217E-03	0.1771	0.2152
11	0.150	0.091	541.0	2.764E+00	3.879E-03	4.707E-03	0.1600	0.1941
17	0.192	0.107	542.1	2.593E+00	3.644E-03	4.424E-03	0.1503	0.1825
87	0.300	-0.106	538.0	2.387E+00	3.335E-03	4.043E-03	0.1376	0.1668
88	0.300	0.061	539.8	2.092E+00	2.930E-03	3.555E-03	0.1209	0.1466
89	0.300	0.122	540.4	2.411E+00	3.381E-03	4.102E-03	0.1395	0.1692
24	0.300	0.160	539.1	2.570E+00	3.596E-03	4.362E-03	0.1483	0.1799
25	0.300	0.221	538.8	2.498E+00	3.495E-03	4.238E-03	0.1442	0.1748
90	0.400	-0.107	538.6	1.852E+00	2.590E-03	3.140E-03	0.1068	0.1295
32	0.400	0.107	537.8	1.846E+00	2.579E-03	3.127E-03	0.1064	0.1290
52	0.400	0.250	540.5	2.213E+00	3.103E-03	3.764E-03	0.1280	0.1553
91	0.425	0.061	539.2	1.740E+00	2.436E-03	2.954E-03	0.1005	0.1219
92	0.425	0.178	539.9	2.184E+00	3.060E-03	3.712E-03	0.1262	0.1531
93	0.500	-0.107	540.9	1.530E+00	2.147E-03	2.605E-03	0.0886	0.1075
35	0.500	0.107	539.9	1.488E+00	2.084E-03	2.528E-03	0.0860	0.1043
94	0.500	0.178	541.8	1.942E+00	2.729E-03	3.312E-03	0.1126	0.1366
53	0.500	0.250	543.1	2.129E+00	2.996E-03	3.638E-03	0.1236	0.1501
95	0.600	-0.250	548.4	1.640E+00	2.326E-03	2.828E-03	0.0959	0.1167
39	0.600	0.107	548.0	1.542E+00	2.185E-03	2.657E-03	0.0901	0.1096

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:50:58
DATE RECORDED: 6-JUN-95
TIME RECORDED: 16:27:35
00001095

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
9	S1R11	ZERO	.29-0	7.93	206.3	1253.67	30.00	9.96	39.96	0.22

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.8	0.022	0.975	3767.	1.980E-05	7.551E-08	9.8750E+05	1.858E+06	2.424E-02	0.422

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	549.7	1.830E+00	2.599E-03	3.163E-03	0.1072	0.1305
98	0.660	-0.107	553.5	1.282E+00	1.832E-03	2.231E-03	0.0756	0.0920
96	0.660	0.107	555.4	1.394E+00	1.997E-03	2.434E-03	0.0824	0.1004
97	0.660	0.250	555.2	1.260E+00	1.804E-03	2.198E-03	0.0744	0.0907
60	0.660	0.400	559.3	2.013E+00	2.899E-03	3.538E-03	0.1196	0.1459
65	0.700	0.500	563.2	2.444E+00	3.539E-03	4.324E-03	0.1460	0.1784
99	0.750	0.178	560.0	2.133E+00	3.074E-03	3.753E-03	0.1268	0.1548
100	0.755	0.400	562.4	2.001E+00	2.895E-03	3.536E-03	0.1194	0.1459
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 1.799
PITOT AT CENTER LINE = 1.824

RUN 9

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:51:01
DATE RECORDED: 6-JUN-95
TIME RECORDED: 16:34:28
00001095G

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
10	S1R11	ZERO	29-0	7.93	207.4	1224.67	30.00	9.97	39.97	0.17

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
91.5	0.022	0.980	.3721.	2.039E-05	7.363E-08	1.0306E+06	1.939E+06	2.421E-02	0.434

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	560.7	5.007E+00	7.542E-03	9.248E-03	0.3116	0.3820
6	0.060	0.000	554.7	3.788E+00	5.653E-03	6.918E-03	0.2335	0.2858
7	0.080	0.000	549.4	3.128E+00	4.632E-03	5.658E-03	0.1914	0.2337
8	0.100	0.000	548.2	2.921E+00	4.318E-03	5.273E-03	0.1784	0.2178
10	0.150	0.000	545.0	2.252E+00	3.313E-03	4.041E-03	0.1369	0.1670
16	0.192	0.000	542.3	2.291E+00	3.357E-03	4.091E-03	0.1387	0.1690
20	0.250	0.000	542.0	1.972E+00	2.888E-03	3.520E-03	0.1193	0.1454
23	0.300	0.000	540.1	1.953E+00	2.853E-03	3.474E-03	0.1179	0.1435
30	0.350	0.000	541.5	1.719E+00	2.516E-03	3.066E-03	0.1039	0.1266
31	0.400	0.000	539.1	1.585E+00	2.311E-03	2.814E-03	0.0955	0.1162
33	0.450	0.000	541.4	1.592E+00	2.330E-03	2.838E-03	0.0962	0.1173
34	0.500	0.000	*****	********	********	********	******	******
37	0.550	0.000	545.5	1.487E+00	2.189E-03	2.670E-03	0.0904	0.1103
38	0.600	0.000	550.9	1.572E+00	2.333E-03	2.852E-03	0.0964	0.1178
40	0.650	0.000	556.1	1.242E+00	1.858E-03	2.275E-03	0.0768	0.0940
41	0.700	0.000	557.6	6.642E-01	9.956E-04	1.220E-03	0.0411	0.0504
43	0.750	0.000	558.9	2.120E+00	3.184E-03	3.902E-03	0.1315	0.1612
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	549.2	2.902E+00	4.295E-03	5.247E-03	0.1774	0.2167
11	0.150	0.091	544.1	2.701E+00	3.968E-03	4.839E-03	0.1639	0.1999
17	0.192	0.107	544.9	2.429E+00	3.573E-03	4.359E-03	0.1476	0.1801
87	0.300	-0.106	540.4	2.249E+00	3.287E-03	4.003E-03	0.1358	0.1654
88	0.300	0.061	542.7	1.970E+00	2.888E-03	3.520E-03	0.1193	0.1454
89	0.300	0.122	542.9	2.342E+00	3.435E-03	4.188E-03	0.1419	0.1730
24	0.300	0.160	541.4	2.431E+00	3.558E-03	4.335E-03	0.1470	0.1791
25	0.300	0.221	541.2	2.368E+00	3.465E-03	4.221E-03	0.1431	0.1744
90	0.400	-0.107	541.1	1.829E+00	2.676E-03	3.260E-03	0.1105	0.1347
32	0.400	0.107	540.3	1.754E+00	2.564E-03	3.122E-03	0.1059	0.1290
52	0.400	0.250	542.8	2.108E+00	3.091E-03	3.768E-03	0.1277	0.1557
91	0.425	0.061	541.5	1.621E+00	2.372E-03	2.891E-03	0.0980	0.1194
92	0.425	0.178	541.9	2.079E+00	3.045E-03	3.710E-03	0.1258	0.1533
93	0.500	-0.107	543.3	1.476E+00	2.166E-03	2.641E-03	0.0895	0.1091
35	0.500	0.107	542.0	1.462E+00	2.142E-03	2.610E-03	0.0885	0.1078
94	0.500	0.178	543.9	1.822E+00	2.677E-03	3.264E-03	0.1106	0.1348
53	0.500	0.250	545.2	2.011E+00	2.960E-03	3.611E-03	0.1223	0.1492
95	0.600	-0.250	550.2	1.556E+00	2.307E-03	2.819E-03	0.0953	0.1165
39	0.600	0.107	550.2	1.450E+00	2.150E-03	2.627E-03	0.0888	0.1085

RUN 10

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:51:02
DATE RECORDED: 6-JUN-95
TIME RECORDED: 16:34:28
00001095?

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
10	S1R11	ZERO	29-O	7.93	207.4	1224.67	30.00	9.97	39.97	0.17

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
91.5	0.022	0.980	3721.	2.039E-05	7.363E-08	1.0306E+06	1.939E+06	2.421E-02	0.434

CO-AXIAL DATA

GAGE NO	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	551.5	1.701E+00	2.527E-03	3.089E-03	0.1044	0.1276
98	0.660	-0.107	555.9	1.253E+00	1.873E-03	2.293E-03	0.0774	0.0947
96	0.660	0.107	557.5	1.356E+00	2.033E-03	2.490E-03	0.0840	0.1029
97	0.660	0.250	557.7	1.217E+00	1.825E-03	2.236E-03	0.0754	0.0924
60	0.660	0.400	561.7	1.876E+00	2.830E-03	3.472E-03	0.1169	0.1434
65	0.700	0.500	566.5	2.288E+00	3.476E-03	4.270E-03	0.1436	0.1764
99	0.750	0.178	562.0	1.894E+00	2.858E-03	3.505E-03	0.1180	0.1448
100	0.755	0.400	565.5	1.677E+00	2.544E-03	3.124E-03	0.1051	0.1291
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 1.801
PITOT AT CENTER LINE = 1.810

RUN 10

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:51:11
DATE RECORDED: 6-JUN-95
TIME RECORDED: 17:26:22
00001095R

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
13	S1R15	ZERO	29-O	7.91	153.4	1290.67	30.00	9.97	39.97	0.09

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.2	0.017	0.732	3824.	1.441E-05	7.823E-08	7.0438E+05	1.325E+06	2.110E-02	0.421

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	569.6	4.862E+00	6.743E-03	8.213E-03	0.3196	0.3892
6	0.060	0.000	564.3	3.673E+00	5.056E-03	6.149E-03	0.2396	0.2914
7	0.080	0.000	559.1	2.988E+00	4.084E-03	4.958E-03	0.1935	0.2350
8	0.100	0.000	557.8	2.808E+00	3.831E-03	4.650E-03	0.1816	0.2204
10	0.150	0.000	555.8	2.215E+00	3.014E-03	3.657E-03	0.1429	0.1733
16	0.192	0.000	553.0	2.170E+00	2.942E-03	3.566E-03	0.1394	0.1690
20	0.250	0.000	553.5	1.899E+00	2.576E-03	3.123E-03	0.1221	0.1480
23	0.300	0.000	551.3	1.847E+00	2.499E-03	3.027E-03	0.1184	0.1435
30	0.350	0.000	553.0	1.727E+00	2.342E-03	2.838E-03	0.1110	0.1345
31	0.400	0.000	550.7	1.483E+00	2.004E-03	2.427E-03	0.0950	0.1150
33	0.450	0.000	551.8	1.478E+00	2.001E-03	2.424E-03	0.0948	0.1149
34	0.500	0.000	*****	********	********	********	******	******
37	0.550	0.000	555.9	1.463E+00	1.992E-03	2.416E-03	0.0944	0.1145
38	0.600	0.000	562.2	1.508E+00	2.070E-03	2.516E-03	0.0981	0.1192
40	0.650	0.000	563.8	6.108E-01	8.404E-04	1.022E-03	0.0398	0.0484
41	0.700	0.000	563.7	9.048E-01	1.245E-03	1.513E-03	0.0590	0.0717
43	0.750	0.000	564.8	3.181E+00	4.382E-03	5.330E-03	0.2077	0.2526
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	559.0	2.767E+00	3.782E-03	4.593E-03	0.1792	0.2176
11	0.150	0.091	554.9	2.546E+00	3.460E-03	4.196E-03	0.1640	0.1989
17	0.192	0.107	555.9	2.324E+00	3.162E-03	3.836E-03	0.1499	0.1818
87	0.300	-0.106	552.1	2.187E+00	2.961E-03	3.588E-03	0.1403	0.1701
88	0.300	0.061	554.0	1.887E+00	2.562E-03	3.106E-03	0.1214	0.1472
89	0.300	0.122	554.6	2.258E+00	3.068E-03	3.721E-03	0.1454	0.1763
24	0.300	0.160	553.0	2.330E+00	3.158E-03	3.828E-03	0.1497	0.1814
25	0.300	0.221	552.5	2.310E+00	3.130E-03	3.793E-03	0.1483	0.1797
90	0.400	-0.107	552.9	1.715E+00	2.324E-03	2.817E-03	0.1101	0.1335
32	0.400	0.107	551.4	1.647E+00	2.227E-03	2.698E-03	0.1056	0.1279
52	0.400	0.250	554.2	2.035E+00	2.763E-03	3.350E-03	0.1309	0.1587
91	0.425	0.061	553.1	1.584E+00	2.147E-03	2.603E-03	0.1018	0.1233
92	0.425	0.178	553.2	1.986E+00	2.692E-03	3.263E-03	0.1276	0.1546
93	0.500	-0.107	553.5	1.403E+00	1.903E-03	2.306E-03	0.0902	0.1093
35	0.500	0.107	552.5	1.409E+00	1.908E-03	2.312E-03	0.0904	0.1096
94	0.500	0.178	553.7	1.732E+00	2.350E-03	2.849E-03	0.1114	0.1350
53	0.500	0.250	555.4	1.945E+00	2.646E-03	3.209E-03	0.1254	0.1521
95	0.600	-0.250	561.5	1.451E+00	1.989E-03	2.417E-03	0.0943	0.1146
39	0.600	0.107	561.7	1.345E+00	1.845E-03	2.242E-03	0.0874	0.1063

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:51:11
DATE RECORDED: 6-JUN-95
TIME RECORDED: 17:26:22
00001095

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
13	S1R15	ZERO	29-0	7.91	153.4	1290.67	30.00	9.97	39.97	0.09

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.2	0.017	0.732	3824.	1.441E-05	7.823E-08	7.0438E+05	1.325E+06	2.110E-02	0.421

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	562.6	1.541E+00	2.116E-03	2.572E-03	0.1003	0.1219
98	0.660	-0.107	563.3	6.454E-01	8.874E-04	1.079E-03	0.0421	0.0511
96	0.660	0.107	564.4	6.350E-01	8.743E-04	1.063E-03	0.0414	0.0504
97	0.660	0.250	564.3	6.004E-01	8.266E-04	1.005E-03	0.0392	0.0476
60	0.660	0.400	566.4	1.488E+00	2.054E-03	2.499E-03	0.0973	0.1184
65	0.700	0.500	568.7	2.087E+00	2.891E-03	3.520E-03	0.1370	0.1668
99	0.750	0.178	568.2	3.320E+00	4.595E-03	5.594E-03	0.2178	0.2651
100	0.755	0.400	573.8	5.624E+00	7.845E-03	9.568E-03	0.3718	0.4534
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 1.380
PITOT AT CENTER LINE = 1.441

RUN 13

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:51 14
DATE RECORDED: 6-JUN-95
TIME RECORDED: 18:10 08
000010960

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
14	S1R16	ZERO	29-0	8.00	711.0	1331.67	30.00	9.97	39.97	0.11

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.7	0.073	3.265	3896.	6.195E-05	7.938E-08	3.0406E+06	5.721E+06	4.482E-02	0.408

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	589.6	1.080E+01	1.455E-02	1.773E-02	0.3247	0.3957
6	0.060	0.000	579.4	8.136E+00	1.082E-02	1.314E-02	0.2413	0.2932
7	0.080	0.000	572.5	6.743E+00	8.882E-03	1.077E-02	0.1982	0.2404
8	0.100	0.000	569.9	6.264E+00	8.223E-03	9.965E-03	0.1835	0.2224
10	0.150	0.000	566.5	4.951E+00	6.471E-03	7.834E-03	0.1444	0.1748
16	0.192	0.000	564.2	4.841E+00	6.308E-03	7.632E-03	0.1407	0.1703
20	0.250	0.000	565.4	4.499E+00	5.871E-03	7.106E-03	0.1310	0.1586
23	0.300	0.000	563.4	4.414E+00	5.745E-03	6.950E-03	0.1282	0.1551
30	0.350	0.000	562.7	3.803E+00	4.946E-03	5.982E-03	0.1104	0.1335
31	0.400	0.000	561.6	3.540E+00	4.596E-03	5.557E-03	0.1026	0.1240
33	0.450	0.000	563.6	3.825E+00	4.979E-03	6.024E-03	0.1111	0.1344
34	0.500	0.000	567.1	4.102E+00	5.366E-03	6.498E-03	0.1197	0.1450
37	0.550	0.000	571.1	4.6[illegible]E+00	6.125E-03	7.425E-03	0.1367	0.1657
38	0.600	0.000	582.8	6.282E+00	8.388E-03	1.020E-02	0.1872	0.2276
40	0.650	0.000	589.4	6.901E+00	9.297E-03	1.133E-02	0.2074	0.2528
41	0.700	0.000	591.3	7.868E+00	1.063E-02	1.296E-02	0.2371	0.2891
43	0.750	0.000	591.3	8.792E+00	1.188E-02	1.448E-02	0.2650	0.3231
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	571.3	6.234E+00	8.200E-03	9.941E-03	0.1830	0.2218
11	0.150	0.091	567.3	5.647E+00	7.388E-03	8.946E-03	0.1648	0.1996
17	0.192	0.107	567.9	5.287E+00	6.922E-03	8.384E-03	0.1545	0.1871
87	0.300	-0.106	565.8	4.937E+00	6.446E-03	7.803E-03	0.1438	0.1741
88	0.300	0.061	565.8	4.584E+00	5.985E-03	7.245E+03	0.1336	0.1617
89	0.300	0.122	569.0	5.251E+00	6.886E-03	8.343E-03	0.1536	0.1862
24	0.300	0.160	568.1	5.471E+00	7.165E-03	8.678E-03	0.1599	0.1936
25	0.300	0.221	565.7	5.227E+00	6.824E-03	8.260E-03	0.1523	0.1843
90	0.400	-0.107	564.5	3.948E+00	5.147E-03	6.228E-03	0.1148	0.1390
32	0.400	0.107	562.6	3.811E+00	4.956E-03	5.993E-03	0.1106	0.1337
52	0.400	0.250	566.7	4.657E+00	6.088E-03	7.371E-03	0.1358	0.1645
91	0.425	0.061	564.6	3.719E+00	4.849E-03	5.867E-03	0.1082	0.1309
92	0.425	0.178	567.7	4.932E+00	6.456E-03	7.818E-03	0.1440	0.1745
93	0.500	-0.107	564.0	3.703E+00	4.823E-03	5.836E-03	0.1076	0.1302
35	0.500	0.107	563.0	3.587E+00	4.666E-03	5.644E-03	0.1041	0.1259
94	0.500	0.178	566.7	4.554E+00	5.953E-03	7.208E-03	0.1328	0.1608
53	0.500	0.250	568.2	4.746E+00	6.216E-03	7.530E-03	0.1387	0.1680
95	0.600	-0.250	576.8	4.355E+00	5.770E-03	7.005E-03	0.1287	0.1563
39	0.600	0.107	580.4	5.421E+00	7.216E-03	8.771E-03	0.1610	0.1957

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 12:51 14
DATE RECORDED: 6-JUN-95
TIME RECORDED: 18:10 08
00001096

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
14	S1R16	ZERO	29-O	8.00	711.0	1331.67	30.00	9.97	39.97	0.11

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.7	0.073	3.265	3896.	6.195E-05	7.938E-08	3.0406E+06	5.721E+06	4.482E-02	0.408

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	579.8	5.132E+00	6.826E-03	8.296E-03	0.1523	0.1851
98	0.660	-0.107	589.1	6.364E+00	8.570E-03	1.044E-02	0.1912	0.2330
96	0.660	0.107	590.5	7.226E+00	9.749E-03	1.188E-02	0.2175	0.2652
97	0.660	0.250	587.5	5.669E+00	7.618E-03	9.278E-03	0.1700	0.2070
60	0.660	0.400	590.5	5.835E+00	7.873E-03	9.597E-03	0.1757	0.2141
65	0.700	0.500	589.2	6.406E+00	8.627E-03	1.051E-02	0.1925	0.2346
99	0.750	0.178	591.3	8.365E+00	1.130E-02	1.378E-02	0.2521	0.3074
100	0.755	0.400	592.1	8.054E+00	1.089E-02	1.328E-02	0.2430	0.2964
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 5.929
PITOT AT CENTER LINE = 6.245

RUN 14

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:51:18
DATE RECORDED: 6-JUN-95
TIME RECORDED: 18:45:52
00001096

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
15	S1R 4	ZERO	29-O	8.00	710.1	1339.67	30.00	9.96	39.96	0.13

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
99.3	0.073	3.261	3909.	6.147E-05	7.990E-08	3.0071E+06	5.658E+06	4.483E-02	0.080

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	250.8	1.522E+01	1.397E-02	1.593E-02	0.3117	0.3554
6	0.060	0.000	205.0	9.948E+00	8.767E-03	9.941E-03	0.1956	0.2217
7	0.080	0.000	200.7	9.594E+00	8.423E-03	9.546E-03	0.1879	0.2129
8	0.100	0.000	208.5	9.915E+00	8.765E-03	9.943E-03	0.1955	0.2218
10	0.150	0.000	212.7	8.891E+00	7.890E-03	8.954E-03	0.1760	0.1997
16	0.192	0.000	211.3	9.103E+00	8.068E-03	9.155E-03	0.1800	0.2042
20	0.250	0.000	224.6	1.009E+01	9.046E-03	1.028E-02	0.2018	0.2293
23	0.300	0.000	234.8	1.275E+01	1.154E-02	1.313E-02	0.2574	0.2929
30	0.350	0.000	246.9	1.466E+01	1.342E-02	1.529E-02	0.2993	0.3412
31	0.400	0.000	245.3	1.532E+01	1.400E-02	1.595E-02	0.3123	0.3558
33	0.450	0.000	253.5	1.625E+01	1.496E-02	1.707E-02	0.3338	0.3808
34	0.500	0.000	255.7	1.606E+01	1.481E-02	1.690E-02	0.3304	0.3770
37	0.550	0.000	255.0	1.658E+01	1.529E-02	1.744E-02	0.3410	0.3891
38	0.600	0.000	265.6	1.725E+01	1.606E-02	1.834E-02	0.3582	0.4092
40	0.650	0.000	263.8	1.644E+01	1.528E-02	1.746E-02	0.3409	0.3894
41	0.700	0.000	261.1	1.590E+01	1.474E-02	1.683E-02	0.3288	0.3754
43	0.750	0.000	256.6	1.608E+01	1.484E-02	1.694E-02	0.3311	0.3778
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	216.1	1.037E+01	9.228E-03	1.048E-02	0.2058	0.2337
11	0.150	0.091	208.4	9.446E+00	8.350E-03	9.471E-03	0.1862	0.2113
17	0.192	0.107	228.5	9.040E+00	8.136E-03	9.251E-03	0.1815	0.2064
87	0.300	-0.106	258.0	1.590E+01	1.470E-02	1.677E-02	0.3278	0.3741
88	0.300	0.061	232.0	1.231E+01	1.111E-02	1.264E-02	0.2479	0.2820
89	0.300	0.122	234.3	1.121E+01	1.014E-02	1.154E-02	0.2262	0.2574
24	0.300	0.160	260.4	1.701E+01	1.576E-02	1.799E-02	0.3515	0.4013
25	0.300	0.221	246.0	1.060E+01	9.687E-03	1.104E-02	0.2161	0.2463
90	0.400	-0.107	254.7	1.535E+01	1.415E-02	1.614E-02	0.3156	0.3600
32	0.400	0.107	253.6	1.599E+01	1.472E-02	1.679E-02	0.3284	0.3746
52	0.400	0.250	272.4	1.470E+01	1.377E-02	1.575E-02	0.3072	0.3513
91	0.425	0.061	248.2	1.480E+01	1.356E-02	1.545E-02	0.3024	0.3447
92	0.425	0.178	253.3	1.228E+01	1.131E-02	1.290E-02	0.2522	0.2877
93	0.500	-0.107	255.0	1.486E+01	1.370E-02	1.563E-02	0.3056	0.3486
35	0.500	0.107	252.3	1.510E+01	1.389E-02	1.584E-02	0.3099	0.3534
94	0.500	0.178	266.4	1.609E+01	1.499E-02	1.713E-02	0.3343	0.3820
53	0.500	0.250	268.7	1.405E+01	1.312E-02	1.499E-02	0.2926	0.3344
95	0.600	-0.250	276.6	1.517E+01	1.427E-02	1.633E-02	0.3183	0.3642
39	0.600	0.107	269.5	1.573E+01	1.470E-02	1.681E-02	0.3279	0.3749

RUN 15

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:51:18
DATE RECORDED: 6-JUN-95
TIME RECORDED: 18:45:52
00001096J

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
15	S1R 4	ZERO	29-O	8.00	710.1	1339.67	30.00	9.96	39.96	0.13

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
99.3	0.073	3.261	3909.	6.147E-05	7.990E-08	3.0071E+06	5.658E+06	4.483E-02	0.080

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	282.2	1.644E+01	1.555E-02	1.781E-02	0.3469	0.3972
98	0.660	-0.107	272.5	1.531E+01	1.434E-02	1.640E-02	0.3199	0.3659
96	0.660	0.107	274.9	1.569E+01	1.474E-02	1.686E-02	0.3287	0.3760
97	0.660	0.250	283.3	1.582E+01	1.498E-02	1.715E-02	0.3341	0.3826
60	0.660	0.400	289.3	1.905E+01	1.813E-02	2.078E-02	0.4045	0.4636
65	0.700	0.500	296.2	2.188E+01	2.097E-02	2.406E-02	0.4677	0.5366
99	0.750	0.178	281.0	1.462E+01	1.381E-02	1.582E-02	0.3081	0.3528
100	0.755	0.400	277.7	1.814E+01	1.708E-02	1.955E-02	0.3810	0.4360
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 5.913
PITOT AT CENTER LINE = 6.604

RUN 15

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:51:23
DATE RECORDED: 6-JUN-95
TIME RECORDED: 18:58:53
000010964

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
16	S1R17	ZERO	29-O	8.00	711.2	1339.67	30.00	9.96	39.96	0.15

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
99.3	0.073	3.266	3909	6.157E-05	7.990E-08	3.0117E+06	5.667E+06	4.486E-02	0.096

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	250.3	1.397E+01	1.282E-02	1.462E-02	0.2859	0.3259
6	0.060	0.000	222.5	1.054E+01	9.439E-03	1.073E-02	0.2104	0.2391
7	0.080	0.000	208.4	9.450E+00	8.353E-03	9.475E-03	0.1862	0.2112
8	0.100	0.000	206.6	9.130E+00	8.058E-03	9.139E-03	0.1796	0.2037
10	0.150	0.000	216.5	8.003E+00	7.126E-03	8.090E-03	0.1588	0.1803
16	0.192	0.000	233.9	1.019E+01	9.214E-03	1.048E-02	0.2054	0.2337
20	0.250	0.000	257.1	1.421E+01	1.312E-02	1.498E-02	0.2925	0.3338
23	0.300	0.000	245.1	1.359E+01	1.241E-02	1.414E-02	0.2767	0.3153
30	0.350	0.000	259.0	1.469E+01	1.359E-02	1.551E-02	0.3029	0.3458
31	0.400	0.000	256.6	1.491E+01	1.377E-02	1.571E-02	0.3068	0.3502
33	0.450	0.000	262.9	1.545E+01	1.435E-02	1.639E-02	0.3198	0.3652
34	0.500	0.000	262.5	1.543E+01	1.432E-02	1.636E-02	0.3192	0.3645
37	0.550	0.000	259.0	1.502E+01	1.390E-02	1.587E-02	0.3098	0.3537
38	0.600	0.000	271.6	1.606E+01	1.504E-02	1.720E-02	0.3352	0.3833
40	0.650	0.000	276.6	1.599E+01	1.504E-02	1.721E-02	0.3353	0.3837
41	0.700	0.000	282.2	1.648E+01	1.558E-02	1.784E-02	0.3473	0.3977
43	0.750	0.000	284.0	1.629E+01	1.543E-02	1.767E-02	0.3438	0.3938
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	207.3	8.899E+00	7.859E-03	8.913E-03	0.1752	0.1987
11	0.150	0.091	208.7	8.971E+00	7.932E-03	8.998E-03	0.1768	0.2006
17	0.192	0.107	210.8	6.896E+00	6.109E-03	6.931E-03	0.1362	0.1545
87	0.300	-0.106	207.7	7.667E+00	6.773E-03	7.682E-03	0.1510	0.1712
88	0.300	0.061	227.2	9.943E+00	8.939E-03	1.016E-02	0.1992	0.2265
89	0.300	0.122	228.6	9.723E+00	8.751E-03	9.951E-03	0.1951	0.2218
24	0.300	0.160	266.1	1.580E+01	1.471E-02	1.681E-02	0.3280	0.3747
25	0.300	0.221	240.3	1.214E+01	1.104E-02	1.257E-02	0.2461	0.2802
90	0.400	-0.107	265.3	1.478E+01	1.376E-02	1.571E-02	0.3066	0.3503
32	0.400	0.107	257.1	1.388E+01	1.282E-02	1.463E-02	0.2857	0.3261
52	0.400	0.250	273.5	1.461E+01	1.370E-02	1.567E-02	0.3055	0.3494
91	0.425	0.061	259.3	1.474E+01	1.364E-02	1.557E-02	0.3041	0.3471
92	0.425	0.178	256.0	1.158E+01	1.069E-02	1.220E-02	0.2383	0.2719
93	0.500	-0.107	261.8	1.482E+01	1.375E-02	1.570E-02	0.3064	0.3499
35	0.500	0.107	258.7	1.492E+01	1.380E-02	1.575E-02	0.3076	0.3511
94	0.500	0.178	269.2	1.533E+01	1.432E-02	1.637E-02	0.3192	0.3648
53	0.500	0.250	270.0	1.368E+01	1.279E-02	1.462E-02	0.2850	0.3258
95	0.600	-0.250	279.7	1.526E+01	1.440E-02	1.648E-02	0.3209	0.3673
39	0.600	0.107	278.8	1.514E+01	1.427E-02	1.634E-02	0.3181	0.3641

RUN 16

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 12 51 23
DATE RECORDED: 6-JUN-95
TIME RECORDED: 18:58 53
000010965

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
16	S1R17	ZERO	29-O	8 00	711 2	1339 67	30 00	9 96	39 96	0 15

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
99 3	0 073	3 266	3909.	6 157E-05	7 990E-08	3 0117E+06	5 667E+06	4 486F-02	0 096

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	291.9	1.600E+01	1.527E-02	1.751E-02	0.3403	0.3902
98	0.660	-0.107	280 9	1 558E+01	1 471E-02	1 684E-02	0.3279	0 3754
96	0.660	0.107	295 0	1 489E+01	1 426E-02	1 635E-02	0.3177	0 3645
97	0.660	0.250	311 9	1 467E+01	1 427E-02	1 641E-02	0.3182	0 3659
60	0.660	0.400	311 5	1 784E+01	1 735E-02	1 995E-02	0 3867	0 4446
65	0.700	0.500	314 6	2 126E+01	2 074E-02	2 386E-02	0 4623	0 5318
99	0.750	0.178	308 9	1 358E+01	1 317E-02	1 514E-02	0 2936	0 3374
100	0.755	0.400	307 9	1 647E+01	1 596E-02	1 834E-02	0.3558	0 4089
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 5.919
PITOT AT CENTER LINE = 7.407

RUN 16

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:51:27
DATE RECORDED: 6-JUN-95
TIME RECORDED: 19:22:26
000010966

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
17	SIR 6	ZERO	29-O	7.99	574.9	1323.67	30.00	9.97	39.97	0.11

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.059	2.650	3882.	5.064E-05	7.905E-08	2.4871E+06	4.680E+06	4.033E-02	0.097

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	240.4	1.274E+01	1.176E-02	1.340E-02	0.2916	0.3322
6	0.060	0.000	215.2	9.595E+00	8.656E-03	9.830E-03	0.2146	0.2437
7	0.080	0.000	196.9	8.252E+00	7.323E-03	8.298E-03	0.1816	0.2057
8	0.100	0.000	198.5	8.161E+00	7.253E-03	8.220E-03	0.1798	0.2038
10	0.150	0.000	200.7	6.584E+00	5.863E-03	6.647E-03	0.1454	0.1648
16	0.192	0.000	201.7	6.556E+00	5.843E-03	6.624E-03	0.1449	0.1642
20	0.250	0.000	209.9	6.851E+00	6.151E-03	6.981E-03	0.1525	0.1731
23	0.300	0.000	207.5	7.104E+00	6.365E-03	7.221E-03	0.1578	0.1790
30	0.350	0.000	212.9	7.175E+00	6.460E-03	7.334E-03	0.1602	0.1818
31	0.400	0.000	213.8	7.591E+00	6.839E-03	7.765E-03	0.1696	0.1925
33	0.450	0.000	222.3	8.263E+00	7.502E-03	8.527E-03	0.1860	0.2114
34	0.500	0.000	227.6	9.400E+00	8.576E-03	9.754E-03	0.2126	0.2418
37	0.550	0.000	224.1	9.329E+00	8.484E-03	9.645E-03	0.2103	0.2391
38	0.600	0.000	238.3	1.158E+01	1.067E-02	1.215E-02	0.2644	0.3012
40	0.650	0.000	255.1	1.361E+01	1.273E-02	1.453E-02	0.3157	0.3603
41	0.700	0.000	259.7	1.383E+01	1.300E-02	1.485E-02	0.3223	0.3681
43	0.750	0.000	267.3	1.379E+01	1.30[illegible]-02	1.492E-02	0.3236	0.3700
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	201.7	8.300E+00	7.398E-03	8.387E-03	0.1834	0.2080
11	0.150	0.091	195.6	7.532E+00	6.677E-03	7.564E-03	0.1655	0.1875
17	0.192	0.107	208.0	6.688E+00	5.995E-03	6.802E-03	0.1486	0.1686
87	0.300	-0.106	197.9	6.416E+00	5.700E-03	6.459E-03	0.1413	0.1601
88	0.300	0.061	215.7	7.835E+00	7.072E-03	8.032E-03	0.1753	0.1991
89	0.300	0.122	213.5	7.765E+00	6.995E-03	7.941E-03	0.1734	0.1969
24	0.300	0.160	213.1	8.195E+00	7.379E-03	8.377E-03	0.1829	0.2077
25	0.300	0.221	208.3	7.186E+00	6.443E-03	7.311E-03	0.1598	0.1813
90	0.400	-0.107	198.9	5.410E+00	4.809E-03	5.451E-03	0.1192	0.1351
32	0.400	0.107	224.6	7.981E+00	7.262E-03	8.256E-03	0.1800	0.2047
52	0.400	0.250	252.2	1.112E+01	1.037E-02	1.184E-02	0.2572	0.2935
91	0.425	0.061	223.8	8.202E+00	7.457E-03	8.478E-03	0.1849	0.2102
92	0.425	0.178	234.8	8.313E+00	7.635E-03	8.692E-03	0.1893	0.2155
93	0.500	-0.107	214.6	6.679E+00	6.022E-03	6.838E-03	0.1493	0.1696
35	0.500	0.107	224.6	8.831E+00	8.035E-03	9.135E-03	0.1992	0.2265
94	0.500	0.178	254.6	1.324E+01	1.238E-02	1.413E-02	0.3070	0.3503
53	0.500	0.250	258.8	1.243E+01	1.167E-02	1.333E-02	0.2894	0.3305
95	0.600	-0.250	259.0	9.268E+00	8.706E-03	9.942E-03	0.2158	0.2465
39	0.600	0.107	244.0	1.032E+01	9.561E-03	1.090E-02	0.2371	0.2702

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:51:27
DATE RECORDED: 6-JUN-95
TIME RECORDED: 19:22:26
00001096?

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
17	S1R 6	ZERO	29-0	7.99	574.9	1323.67	30.00	9.97	39.97	0.11

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.059	2.650	3882.	5.064E-05	7.905E-08	2.4871E+06	4.680E+06	4.033E-02	0.097

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	268.4	1.414E+01	1.339E-02	1.532E-02	0.3321	0.3797
98	0.660	-0.107	255.5	1.094E+01	1.024E-02	1.169E-02	0.2539	0.2899
96	0.660	0.107	263.2	1.331E+01	1.255E-02	1.434E-02	0.3112	0.3556
97	0.660	0.250	272.3	1.355E+01	1.289E-02	1.474E-02	0.3195	0.3655
60	0.660	0.400	278.3	1.610E+01	1.540E-02	1.763E-02	0.3818	0.4372
65	0.700	0.500	284.2	1.873E+01	1.802E-02	2.065E-02	0.4468	0.5119
99	0.750	0.178	265.4	1.128E+01	1.066E-02	1.218E-02	0.2643	0.3020
100	0.755	0.400	263.7	1.514E+01	1.428E-02	1.632E-02	0.3541	0.4047
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 4.806
PITOT AT CENTER LINE = 5.159

RUN 17

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:51:31
DATE RECORDED: 6-JUN-95
TIME RECORDED: 19:32:58
00001096B

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
18	S1R18	ZERO	29-0	7.99	577.5	1319.67	30.00	9.97	39.97	0.16

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.9	0.060	2.662	3876.	5.104E-05	7.879E-08	2.5106E+06	4.724E+06	4.040E-02	0.083

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	243.1	1.407E+01	1.307E-02	1.490E-02	0.3236	0.3688
6	0.060	0.000	216.7	1.059E+01	9.602E-03	1.091E-02	0.2376	0.2699
7	0.080	0.000	199.4	9.310E+00	8.311E-03	9.421E-03	0.2057	0.2332
8	0.100	0.000	201.5	9.084E+00	8.124E-03	9.212E-03	0.2011	0.2280
10	0.150	0.000	208.4	7.599E+00	6.838E-03	7.760E-03	0.1693	0.1921
16	0.192	0.000	213.6	8.527E+00	7.709E-03	8.753E-03	0.1908	0.2167
20	0.250	0.000	221.2	9.027E+00	8.218E-03	9.340E-03	0.2034	0.2312
23	0.300	0.000	221.5	1.007E+01	9.173E-03	1.043E-02	0.2270	0.2581
30	0.350	0.000	229.4	1.137E+01	1.043E-02	1.187E-02	0.2581	0.2937
31	0.400	0.000	230.2	1.251E+01	1.148E-02	1.306E-02	0.2841	0.3232
33	0.450	0.000	237.4	1.344E+01	1.241E-02	1.414E-02	0.3073	0.3499
34	0.500	0.000	242.6	1.421E+01	1.319E-02	1.503E-02	0.3265	0.3721
37	0.550	0.000	244.5	1.453E+01	1.352E-02	1.541E-02	0.3346	0.3814
38	0.600	0.000	250.9	1.521E+01	1.423E-02	1.624E-02	0.3523	0.4019
40	0.650	0.000	255.4	1.462E+01	1.374E-02	1.568E-02	0.3401	0.3882
41	0.700	0.000	258.1	1.468E+01	1.383E-02	1.579E-02	0.3423	0.3908
43	0.750	0.000	250.9	1.449E+01	1.355E-02	1.546E-02	0.3355	0.3827
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	210.6	9.982E+00	9.001E-03	1.022E-02	0.2228	0.2529
11	0.150	0.091	198.3	9.165E+00	8.173E-03	9.263E-03	0.2023	0.2293
17	0.192	0.107	238.2	1.212E+01	1.121E-02	1.276E-02	0.2774	0.3159
87	0.300	-0.106	246.0	1.398E+01	1.302E-02	1.485E-02	0.3224	0.3675
88	0.300	0.061	222.2	1.047E+01	9.542E-03	1.085E-02	0.2362	0.2685
89	0.300	0.122	244.3	1.449E+01	1.347E-02	1.536E-02	0.3335	0.3801
24	0.300	0.160	238.7	1.453E+01	1.344E-02	1.531E-02	0.3326	0.3789
25	0.300	0.221	239.2	1.407E+01	1.302E-02	1.484E-02	0.3223	0.3672
90	0.400	-0.107	239.2	1.293E+01	1.197E-02	1.364E-02	0.2963	0.3375
32	0.400	0.107	232.2	1.155E+01	1.062E-02	1.209E-02	0.2628	0.2991
52	0.400	0.250	248.8	1.282E+01	1.197E-02	1.365E-02	0.2963	0.3379
91	0.425	0.061	231.7	1.152E+01	1.059E-02	1.205E-02	0.2622	0.2984
92	0.425	0.178	249.4	1.382E+01	1.292E-02	1.473E-02	0.3197	0.3646
93	0.500	-0.107	238.5	1.291E+01	1.194E-02	1.360E-02	0.2955	0.3366
35	0.500	0.107	232.7	1.221E+01	1.124E-02	1.279E-02	0.2781	0.3165
94	0.500	0.178	247.4	1.391E+01	1.298E-02	1.480E-02	0.3212	0.3663
53	0.500	0.250	257.3	1.433E+01	1.349E-02	1.540E-02	0.3338	0.3812
95	0.600	-0.250	258.0	1.323E+01	1.246E-02	1.423E-02	0.3084	0.3522
39	0.600	0.107	250.9	1.337E+01	1.251E-02	1.427E-02	0.3096	0.3532

RUN 18

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:51:32
DATE RECORDED: 6-JUN-95
TIME RECORDED: 19:32:58
0000010969

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
18	S1R18	ZERO	29-0	7.99	577.5	1319.67	30.00	9.97	39.97	0.16

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.9	0.060	2.662	3876	5.104E-05	7.879E-08	2.5106E+06	4.724E+06	4.040E-02	0.083

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	262.0	1.419E+01	1.342E-02	1.533E-02	0.3321	0.3794
98	0.660	-0.107	254.8	1.329E+01	1.248E-02	1.424E-02	0.3088	0.3525
96	0.660	0.107	258.4	1.365E+01	1.287E-02	1.469E-02	0.3184	0.3636
97	0.660	0.250	266.8	1.357E+01	1.289E-02	1.474E-02	0.3191	0.3648
60	0.660	0.400	272.1	1.625E+01	1.551E-02	1.775E-02	0.3840	0.4394
65	0.700	0.500	280.0	1.902E+01	1.829E-02	2.095E-02	0.4528	0.5186
99	0.750	0.178	264.0	1.261E+01	1.194E-02	1.365E-02	0.2955	0.3377
100	0.755	0.400	262.9	1.534E+01	1.451E-02	1.658E-02	0.3592	0.4105
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 4.828
PITOT AT CENTER LINE = 5.414

RUN 18

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:51:35
DATE RECORDED: 6-JUN-95
TIME RECORDED: 19:54:24
000010979

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
19	SIR 8	ZERO	29-0	7.98	458.7	1315.67	30.00	9.96	39.96	0.16

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.9	0.048	2.124	3868.	4.089E-05	7.874E-08	2.0084E+06	3.779E+06	3.607E-02	0.085

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	237.7	1.315E+01	1.220E-02	1.389E-02	0.3381	0.3851
6	0.060	0.000	201.4	8.545E+00	7.669E-03	8.696E-03	0.2126	0.2411
7	0.080	0.000	203.1	9.175E+00	8.246E-03	9.352E-03	0.2286	0.2593
8	0.100	0.000	194.8	8.334E+00	7.435E-03	8.424E-03	0.2061	0.2335
10	0.150	0.000	194.2	7.086E+00	6.318E-03	7.158E-03	0.1752	0.1984
16	0.192	0.000	189.6	6.849E+00	6.082E-03	6.887E-03	0.1686	0.1909
20	0.250	0.000	191.7	6.256E+00	5.566E-03	6.304E-03	0.1543	0.1748
23	0.300	0.000	190.6	6.160E+00	5.475E-03	6.201E-03	0.1518	0.1719
30	0.350	0.000	195.5	5.882E+00	5.252E-03	5.951E-03	0.1456	0.1650
31	0.400	0.000	190.5	5.590E+00	4.968E-03	5.626E-03	0.1377	0.1560
33	0.450	0.000	199.1	6.208E+00	5.560E-03	6.302E-03	0.1541	0.1747
34	0.500	0.000	214.8	8.674E+00	7.879E-03	8.949E-03	0.2184	0.2481
37	0.550	0.000	223.8	1.117E+01	1.023E-02	1.163E-02	0.2837	0.3225
38	0.600	0.000	229.3	1.274E+01	1.173E-02	1.334E-02	0.3251	0.3699
40	0.650	0.000	233.0	1.245E+01	1.150E-02	1.309E-02	0.3188	0.3629
41	0.700	0.000	235.2	1.261E+01	1.167E-02	1.328E-02	0.3234	0.3683
43	0.750	0.000	232.2	1.272E+01	1.174E-02	1.337E-02	0.3256	0.3706
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	192.5	8.441E+00	7.515E-03	8.512E-03	0.2083	0.2360
11	0.150	0.091	185.3	8.046E+00	7.118E-03	8.056E-03	0.1973	0.2233
17	0.192	0.107	199.6	6.559E+00	5.877E-03	6.662E-03	0.1629	0.1847
87	0.300	-0.106	222.8	1.039E+01	9.504E-03	1.081E-02	0.2635	0.2996
88	0.300	0.061	199.5	7.030E+00	6.298E-03	7.140E-03	0.1746	0.1979
89	0.300	0.122	194.9	7.528E+00	6.717E-03	7.610E-03	0.1862	0.2110
24	0.300	0.160	220.5	1.019E+01	9.302E-03	1.057E-02	0.2579	0.2931
25	0.300	0.221	223.5	1.060E+01	9.707E-03	1.104E-02	0.2691	0.3060
90	0.400	-0.107	233.5	1.188E+01	1.098E-02	1.250E-02	0.3044	0.3465
32	0.400	0.107	205.6	6.007E+00	5.412E-03	6.140E-03	0.1500	0.1702
52	0.400	0.250	235.4	1.039E+01	9.616E-03	1.095E-02	0.2666	0.3035
91	0.425	0.061	207.6	6.017E+00	5.430E-03	6.162E-03	0.1506	0.1708
92	0.425	0.178	213.3	6.286E+00	5.702E-03	6.475E-03	0.1581	0.1795
93	0.500	-0.107	225.4	1.113E+01	1.020E-02	1.160E-02	0.2829	0.3217
35	0.500	0.107	204.9	5.839E+00	5.257E-03	5.964E-03	0.1457	0.1653
94	0.500	0.178	215.3	6.118E+00	5.560E-03	6.315E-03	0.1541	0.1751
53	0.500	0.250	223.0	6.906E+00	6.321E-03	7.186E-03	0.1752	0.1992
95	0.600	-0.250	242.5	1.164E+01	1.085E-02	1.236E-02	0.3007	0.3427
39	0.600	0.107	219.7	6.670E+00	6.086E-03	6.917E-03	0.1687	0.1918

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:51:35
DATE RECORDED: 6-JUN-95
TIME RECORDED: 19:54:24
0000109?1

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
19	S1R 8	ZERO	29-O	7.98	458.7	1315.67	30.00	9.96	39.96	0.16

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.9	0.048	2.124	3868.	4.089E-05	7.874E-08	2.0084E+06	3.779E+06	3.607E-02	0.085

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	227.2	6.449E+00	5.924E-03	6.739E-03	0.1642	0.1868
98	0.660	-0.107	238.0	1.156E+01	1.072E-02	1.222E-02	0.2973	0.3387
96	0.660	0.107	231.3	8.552E+00	7.886E-03	8.975E-03	0.2186	0.2488
97	0.660	0.250	234.7	6.807E+00	6.297E-03	7.170E-03	0.1746	0.1988
60	0.660	0.400	248.2	1.172E+01	1.098E-02	1.252E-02	0.3044	0.3472
65	0.700	0.500	255.2	1.406E+01	1.326E-02	1.514E-02	0.3676	0.4197
99	0.750	0.178	237.9	7.765E+00	7.205E-03	8.207E-03	0.1997	0.2275
100	0.755	0.400	238.2	1.061E+01	9.850E-03	1.122E-02	0.2731	0.3111
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 3.863
PITOT AT CENTER LINE = 4.156

RUN 19

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:51:39
DATE RECORDED: 6-JUN-95
TIME RECORDED: 20:01:09
00001097?

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
20	S1R19	ZERO	29-0	7.98	459.7	1316.67	30.00	9.97	39.97	0.17

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.9	0.048	2.128	3870.	4.094E-05	7.880E-08	2.0102E+06	3.783E+06	3.611E-02	0.124

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	261.2	1.004E+01	9.514E-03	1.087E-02	0.2634	0.3010
6	0.060	0.000	234.2	6.933E+00	6.404E-03	7.291E-03	0.1773	0.2019
7	0.080	0.000	223.9	6.162E+00	5.639E-03	6.412E-03	0.1561	0.1775
8	0.100	0.000	222.3	5.663E+00	5.175E-03	5.883E-03	0.1433	0.1629
10	0.150	0.000	222.2	5.109E+00	4.668E-03	5.306E-03	0.1293	0.1469
16	0.192	0.000	216.1	5.151E+00	4.680E-03	5.317E-03	0.1296	0.1472
20	0.250	0.000	208.9	4.702E+00	4.245E-03	4.817E-03	0.1175	0.1334
23	0.300	0.000	203.7	4.725E+00	4.246E-03	4.816E-03	0.1176	0.1333
30	0.350	0.000	204.9	4.406E+00	3.963E-03	4.496E-03	0.1097	0.1245
31	0.400	0.000	195.8	4.194E+00	3.742E-03	4.240E-03	0.1036	0.1174
33	0.450	0.000	196.7	4.295E+00	3.835E-03	4.346E-03	0.1062	0.1203
34	0.500	0.000	200.3	4.492E+00	4.024E-03	4.562E-03	0.1114	0.1263
37	0.550	0.000	206.0	4.677E+00	4.211E-03	4.777E-03	0.1166	0.1323
38	0.600	0.000	225.3	7.082E+00	6.489E-03	7.379E-03	0.1797	0.2043
40	0.650	0.000	252.4	1.087E+01	1.022E-02	1.166E-02	0.2829	0.3228
41	0.700	0.000	258.2	1.139E+01	1.076E-02	1.229E-02	0.2980	0.3403
43	0.750	0.000	255.3	1.089E+01	1.026E-02	1.172E-02	0.2842	0.3245
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	221.6	5.803E+00	5.299E-03	6.023E-03	0.1467	0.1668
11	0.150	0.091	211.7	5.287E+00	4.785E-03	5.432E-03	0.1325	0.1504
17	0.192	0.107	218.7	5.304E+00	4.830E-03	5.488E-03	0.1338	0.1520
87	0.300	-0.106	211.5	5.087E+00	4.603E-03	5.225E-03	0.1275	0.1447
88	0.300	0.061	211.5	5.083E+00	4.599E-03	5.221E-03	0.1274	0.1446
89	0.300	0.122	218.5	5.368E+00	4.888E-03	5.554E-03	0.1354	0.1538
24	0.300	0.160	220.1	5.652E+00	5.155E-03	5.858E-03	0.1427	0.1622
25	0.300	0.221	217.5	5.295E+00	4.817E-03	5.473E-03	0.1334	0.1515
90	0.400	-0.107	210.1	4.827E+00	4.362E-03	4.951E-03	0.1208	0.1371
32	0.400	0.107	203.3	4.775E+00	4.289E-03	4.864E-03	0.1188	0.1347
52	0.400	0.250	227.9	6.131E+00	5.631E-03	6.406E-03	0.1559	0.1774
91	0.425	0.061	201.5	4.455E+00	3.995E-03	4.529E-03	0.1106	0.1254
92	0.425	0.178	211.9	5.099E+00	4.615E-03	5.240E-03	0.1278	0.1451
93	0.500	-0.107	239.5	9.279E+00	8.614E-03	9.814E-03	0.2385	0.2717
35	0.500	0.107	232.4	9.433E+00	8.700E-03	9.902E-03	0.2409	0.2742
94	0.500	0.178	203.9	4.997E+00	4.491E-03	5.093E-03	0.1243	0.1410
53	0.500	0.250	210.6	5.114E+00	4.623E-03	5.248E-03	0.1280	0.1453
95	0.600	-0.250	230.3	6.476E+00	5.961E-03	6.783E-03	0.1651	0.1878
39	0.600	0.107	246.2	1.024E+01	9.569E-03	1.091E-02	0.2650	0.3021

RUN 20

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 12:51:59
DATE RECORDED: 6-JUN 95
TIME RECORDED: 20:01:09
000010973

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
20	S1R19	ZERO	29-0	7.98	459.7	1316.67	30.00	9.97	39.97	0.17

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.9	0.048	2.128	3870.	4.094E-05	7.880E-08	2.0102E+06	3.783E+06	3.611E-02	0.124

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	224.4	6.419E+00	5.877E-03	6.682E-03	0.1627	0.1850
98	0.660	-0.107	258.5	1.072E+01	1.013E-02	1.157E-02	0.2804	0.3203
96	0.660	0.107	256.6	1.090E+01	1.028E-02	1.174E-02	0.2848	0.3251
97	0.660	0.250	262.5	1.179E+01	1.118E-02	1.278E-02	0.3097	0.3539
60	0.660	0.400	234.6	6.424E+00	5.937E-03	6.759E-03	0.1644	0.1872
65	0.700	0.500	234.8	7.180E+00	6.636E-03	7.556E-03	0.1838	0.2092
99	0.750	0.178	258.5	1.067E+01	1.008E-02	1.151E-02	0.2792	0.3188
100	0.755	0.400	241.7	8.778E+00	8.165E-03	9.305E-03	0.2261	0.2577
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 3.873
PITOT AT CENTER LINE = 4.692

RUN 20

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:51:43
DATE RECORDED: 6-JUN-95
TIME RECORDED: 20:22:24
0000010974

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
21	S1R10	ZERO	29-O	7.96	329.9	1297.67	30.00	9.96	39.96	0.18

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.8	0.035	1.540	3838.	3.010E-05	7.789E-08	1.4833E+06	2.791E+06	3.064E-02	0.132

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	257.7	8.240E+00	7.924E-03	9.053E-03	0.2586	0.2955
6	0.060	0.000	240.5	5.887E+00	5.569E-03	6.348E-03	0.1818	0.2072
7	0.080	0.000	230.6	5.159E+00	4.835E-03	5.504E-03	0.1578	0.1796
8	0.100	0.000	230.8	4.964E+00	4.653E-03	5.297E-03	0.1518	0.1729
10	0.150	0.000	224.9	3.947E+00	3.680E-03	4.186E-03	0.1201	0.1366
16	0.192	0.000	218.8	4.193E+00	3.887E-03	4.418E-03	0.1269	0.1442
20	0.250	0.000	209.6	3.909E+00	3.592E-03	4.079E-03	0.1172	0.1331
23	0.300	0.000	203.0	4.038E+00	3.688E-03	4.185E-03	0.1204	0.1366
30	0.350	0.000	203.5	3.644E+00	3.330E-03	3.778E-03	0.1087	0.1233
31	0.400	0.000	194.1	3.490E+00	3.163E-03	3.584E-03	0.1032	0.1170
33	0.450	0.000	193.5	3.417E+00	3.095E-03	3.507E-03	0.1010	0.1145
34	0.500	0.000	197.4	3.618E+00	3.289E-03	3.728E-03	0.1073	0.1217
37	0.550	0.000	199.4	3.777E+00	3.439E-03	3.900E-03	0.1122	0.1273
38	0.600	0.000	211.2	4.358E+00	4.012E-03	4.556E-03	0.1309	0.1487
40	0.650	0.000	228.9	5.502E+00	5.148E-03	5.859E-03	0.1680	0.1912
41	0.700	0.000	237.6	6.867E+00	6.478E-03	7.382E-03	0.2114	0.2409
43	0.750	0.000	251.6	7.288E+00	6.968E-03	7.954E-03	0.2274	0.2596
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	221.9	4.628E+00	4.302E-03	4.892E-03	0.1404	0.1597
11	0.150	0.091	214.1	4.507E+00	4.160E-03	4.726E-03	0.1358	0.1542
17	0.192	0.107	224.7	4.468E+00	4.164E-03	4.737E-03	0.1359	0.1546
87	0.300	-0.106	217.0	4.453E+00	4.120E-03	4.682E-03	0.1345	0.1528
88	0.300	0.061	207.9	4.270E+00	3.918E-03	4.447E-03	0.1279	0.1452
89	0.300	0.122	217.7	4.859E+00	4.500E-03	5.114E-03	0.1469	0.1669
24	0.300	0.160	218.2	5.007E+00	4.638E-03	5.272E-03	0.1514	0.1721
25	0.300	0.221	224.0	4.878E+00	4.544E-03	5.168E-03	0.1483	0.1687
90	0.400	-0.107	207.5	3.624E+00	3.324E-03	3.773E-03	0.1085	0.1231
32	0.400	0.107	200.0	3.700E+00	3.371E-03	3.823E-03	0.1100	0.1248
52	0.400	0.250	221.6	4.260E+00	3.959E-03	4.502E-03	0.1292	0.1469
91	0.425	0.061	199.0	3.555E+00	3.236E-03	3.669E-03	0.1056	0.1198
92	0.425	0.178	209.3	4.034E+00	3.707E-03	4.209E-03	0.1210	0.1374
93	0.500	-0.107	215.8	4.783E+00	4.421E-03	5.024E-03	0.1443	0.1640
35	0.500	0.107	192.3	3.105E+00	2.809E-03	3.182E-03	0.0917	0.1039
94	0.500	0.178	201.8	3.624E+00	3.307E-03	3.751E-03	0.1079	0.1224
53	0.500	0.250	215.8	4.553E+00	4.208E-03	4.782E-03	0.1373	0.1561
95	0.600	-0.250	237.6	3.264E+00	3.079E-03	3.509E-03	0.1005	0.1145
39	0.600	0.107	212.2	3.362E+00	3.097E-03	3.518E-03	0.1011	0.1148

RUN 21

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:51:43
DATE RECORDED: 6-JUN-95
TIME RECORDED: 20:22:24
0000109?5

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
21	S1R10	ZERO	29-O	7.96	329.9	1297.67	30.00	9.96	39.96	0.18

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.8	0.035	1.540	3838.	3.010E-05	7.789E-08	1.4833E+06	2.791E+06	3.064E-02	0.132

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	241.3	7.949E+00	7.525E-03	8.579E-03	0.2456	0.2800
98	0.660	-0.107	242.8	5.833E+00	5.529E-03	6.305E-03	0.1805	0.2058
96	0.660	0.107	226.1	3.981E+00	3.715E-03	4.227E-03	0.1212	0.1379
97	0.660	0.250	236.5	4.254E+00	4.009E-03	4.568E-03	0.1308	0.1491
60	0.660	0.400	240.1	6.941E+00	6.564E-03	7.482E-03	0.2142	0.2442
65	0.700	0.500	238.4	8.202E+00	7.743E-03	8.824E-03	0.2527	0.2880
99	0.750	0.178	246.5	2.861E+00	2.722E-03	3.105E-03	0.0888	0.1013
100	0.755	0.400	248.1	9.547E+00	9.097E-03	1.038E-02	0.2969	0.3388
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 2.807
PITOT AT CENTER LINE = 3.094

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:51:47
DATE RECORDED: 6-JUN-95
TIME RECORDED: 20:46:46
00001097

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	POLL-SECTOR (DEG)
22	SIR12	ZERO	29-0	7.93	208.2	1231.67	30.00	9.96	39.96	0.15

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.1	0.022	0.984	3732.	2.035E-05	7.408E-08	1.0253E+06	1.929E+06	2.428E-02	0.145

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	247.5	6.052E+00	6.149E-03	7.028E-03	0.2533	0.2895
6	0.060	0.000	230.1	4.275E+00	4.268E-03	4.867E-03	0.1758	0.2005
7	0.080	0.000	223.2	3.817E+00	3.785E-03	4.311E-03	0.1559	0.1776
8	0.100	0.000	223.7	3.477E+00	3.449E-03	3.929E-03	0.1421	0.1618
10	0.150	0.000	223.8	2.887E+00	2.865E-03	3.263E-03	0.1180	0.1344
16	0.192	0.000	215.2	2.750E+00	2.705E-03	3.078E-03	0.1114	0.1268
20	0.250	0.000	207.0	2.724E+00	2.658E-03	3.022E-03	0.1095	0.1245
23	0.300	0.000	197.9	2.727E+00	2.638E-03	2.995E-03	0.1086	0.1233
30	0.350	0.000	200.7	2.544E+00	2.468E-03	2.802E-03	0.1016	0.1154
31	0.400	0.000	191.2	2.529E+00	2.430E-03	2.757E-03	0.1001	0.1135
33	0.450	0.000	189.3	2.530E+00	2.427E-03	2.753E-03	0.1000	0.1134
34	0.500	0.000	194.5	2.601E+00	2.507E-03	2.845E-03	0.1033	0.1172
37	0.550	0.000	194.4	2.466E+00	2.378E-03	2.698E-03	0.0979	0.1111
38	0.600	0.000	198.5	2.564E+00	2.482E-03	2.818E-03	0.1022	0.1160
40	0.650	0.000	206.1	2.664E+00	2.598E-03	2.953E-03	0.1070	0.1216
41	0.700	0.000	211.9	3.279E+00	3.216E-03	3.658E-03	0.1325	0.1507
43	0.750	0.000	223.0	3.745E+00	3.713E-03	4.230E-03	0.1529	0.1742
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	218.5	3.516E+00	3.471E-03	3.951E-03	0.1429	0.1627
11	0.150	0.091	211.4	3.437E+00	3.369E-03	3.831E-03	0.1388	0.1578
17	0.192	0.107	224.0	3.321E+00	3.296E-03	3.755E-03	0.1357	0.1547
87	0.300	-0.106	213.9	3.001E+00	2.948E-03	3.354E-03	0.1214	0.1381
88	0.300	0.061	203.9	2.857E+00	2.780E-03	3.159E-03	0.1145	0.1301
89	0.300	0.122	211.2	3.223E+00	3.158E-03	3.592E-03	0.1301	0.1479
24	0.300	0.160	211.1	3.163E+00	3.099E-03	3.525E-03	0.1277	0.1452
25	0.300	0.221	217.6	3.134E+00	3.091E-03	3.518E-03	0.1273	0.1449
90	0.400	-0.107	205.6	2.635E+00	2.567E-03	2.918E-03	0.1057	0.1202
32	0.400	0.107	194.6	2.621E+00	2.527E-03	2.868E-03	0.1041	0.1181
52	0.400	0.250	215.0	3.115E+00	3.064E-03	3.487E-03	0.1262	0.1436
91	0.425	0.061	195.2	2.628E+00	2.535E-03	2.877E-03	0.1044	0.1185
92	0.425	0.178	204.6	3.177E+00	3.093E-03	3.514E-03	0.1274	0.1448
93	0.500	-0.107	218.2	5.146E+00	5.077E-03	5.780E-03	0.2091	0.2381
35	0.500	0.107	188.2	2.270E+00	2.175E-03	2.466E-03	0.0896	0.1016
94	0.500	0.178	194.5	2.732E+00	2.635E-03	2.990E-03	0.1085	0.1231
53	0.500	0.250	200.5	2.863E+00	2.776E-03	3.153E-03	0.1144	0.1299
95	0.600	-0.250	217.6	2.441E+00	2.407E-03	2.740E-03	0.0991	0.1128
39	0.600	0.107	204.3	2.459E+00	2.394E-03	2.720E-03	0.0986	0.1120

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:51:47
DATE RECORDED: 6-JUN-95
TIME RECORDED: 20:46:46
0000109?7

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
22	S1R12	ZERO	29-O	7.93	208.2	1231.67	30.00	9.96	39.96	0.15

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.1	0.022	0.984	3732.	2.035E-05	7.408E-08	1.0253E+06	1.929E+06	2.428E-02	0.145

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	208.2	2.818E+00	2.753E-03	3.130E-03	0.1134	0.1289
98	0.660	-0.107	225.3	5.043E+00	5.011E-03	5.710E-03	0.2064	0.2352
96	0.660	0.107	213.8	2.848E+00	2.798E-03	3.183E-03	0.1152	0.1311
97	0.660	0.250	219.8	2.292E+00	2.266E-03	2.580E-03	0.0933	0.1062
60	0.660	0.400	215.4	3.566E+00	3.509E-03	3.993E-03	0.1445	0.1645
65	0.700	0.500	211.2	4.079E+00	3.997E-03	4.546E-03	0.1646	0.1872
99	0.750	0.178	221.1	2.221E+00	2.198E-03	2.503E-03	0.0905	0.1031
100	0.755	0.400	206.7	2.290E+00	2.234E-03	2.539E-03	0.0920	0.1046
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 1.799
PITOT AT CENTER LINE = 1.823

RUN 22

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:51:52
DATE RECORDED: 6-JUN-95
TIME RECORDED: 20:52:15
00001097B

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
23	S1R20	ZERO	29-0	7.93	207.2	1229.67	30.00	9.96	39.96	0.16

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
91.9	0.022	0.980	3729.	2.029E-05	7.396E-08	1.0231E+06	1.925E+06	2.421E-02	0.129

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	229.4	6.459E+00	6.457E-03	7.362E-03	0.2667	0.3040
6	0.060	0.000	212.6	4.871E+00	4.789E-03	5.447E-03	0.1978	0.2249
7	0.080	0.000	199.1	3.790E+00	3.678E-03	4.176E-03	0.1519	0.1725
8	0.100	0.000	200.4	3.581E+00	3.479E-03	3.951E-03	0.1437	0.1632
10	0.150	0.000	202.2	2.871E+00	2.794E-03	3.174E-03	0.1154	0.1311
16	0.192	0.000	193.3	2.830E+00	2.731E-03	3.099E-03	0.1128	0.1280
20	0.250	0.000	188.9	2.838E+00	2.727E-03	3.093E-03	0.1126	0.1277
23	0.300	0.000	181.8	2.858E+00	2.727E-03	3.090E-03	0.1126	0.1276
30	0.350	0.000	185.2	2.665E+00	2.551E-03	2.892E-03	0.1054	0.1194
31	0.400	0.000	175.7	2.667E+00	2.530E-03	2.864E-03	0.1045	0.1183
33	0.450	0.000	176.3	2.695E+00	2.558E-03	2.897E-03	0.1057	0.1196
34	0.500	0.000	182.4	2.741E+00	2.617E-03	2.966E-03	0.1081	0.1225
37	0.550	0.000	183.5	2.818E+00	2.693E-03	3.052E-03	0.1112	0.1260
38	0.600	0.000	189.3	3.001E+00	2.884E-03	3.271E-03	0.1191	0.1351
40	0.650	0.000	198.0	2.774E+00	2.689E-03	3.052E-03	0.1110	0.1261
41	0.700	0.000	197.5	2.730E+00	2.645E-03	3.002E-03	0.1092	0.1240
43	0.750	0.000	202.7	2.904E+00	2.827E-03	3.212E-03	0.1168	0.1326
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	200.3	3.630E+00	3.527E-03	4.005E-03	0.1456	0.1654
11	0.150	0.091	191.0	3.402E+00	3.276E-03	3.715E-03	0.1353	0.1534
17	0.192	0.107	199.6	3.287E+00	3.191E-03	3.624E-03	0.1318	0.1497
87	0.300	-0.106	191.0	2.995E+00	2.884E-03	3.271E-03	0.1191	0.1351
88	0.300	0.061	189.0	2.952E+00	2.837E-03	3.217E-03	0.1171	0.1328
89	0.300	0.122	194.6	3.215E+00	3.106E-03	3.525E-03	0.1283	0.1456
24	0.300	0.160	192.8	3.412E+00	3.291E-03	3.733E-03	0.1359	0.1542
25	0.300	0.221	192.9	3.330E+00	3.212E-03	3.644E-03	0.1327	0.1505
90	0.400	-0.107	188.3	2.858E+00	2.745E-03	3.112E-03	0.1134	0.1285
32	0.400	0.107	180.2	2.658E+00	2.532E-03	2.869E-03	0.1046	0.1185
52	0.400	0.250	200.4	3.216E+00	3.125E-03	3.549E-03	0.1290	0.1465
91	0.425	0.061	182.0	2.741E+00	2.616E-03	2.964E-03	0.1081	0.1224
92	0.425	0.178	190.7	3.208E+00	3.088E-03	3.503E-03	0.1275	0.1446
93	0.500	-0.107	184.5	2.441E+00	2.336E-03	2.647E-03	0.0965	0.1093
35	0.500	0.107	174.9	2.434E+00	2.307E-03	2.612E-03	0.0953	0.1079
94	0.500	0.178	181.3	2.852E+00	2.720E-03	3.082E-03	0.1123	0.1273
53	0.500	0.250	188.5	3.089E+00	2.967E-03	3.364E-03	0.1225	0.1389
95	0.600	-0.250	197.4	2.747E+00	2.661E-03	3.021E-03	0.1099	0.1248
39	0.600	0.107	193.2	2.580E+00	2.489E-03	2.824E-03	0.1028	0.1166

RUN 23

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 12:51:52
DATE RECORDED: 6-JUN-95
TIME RECORDED: 20:52:15
00001097?

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
23	S1R20	ZERO	29-O	7.93	207.2	1229.67	30.00	9.96	39.96	0.16

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
91.9	0.022	0.980	3729.	2.029E-05	7.396E-08	1.0231E+06	1.925E+06	2.421E-02	0.129

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	195.1	2.982E+00	2.882E-03	3.271E-03	0.1190	0.1351
98	0.660	-0.107	201.8	2.587E+00	2.517E-03	2.859E-03	0.1039	0.1181
96	0.660	0.107	203.3	3.005E+00	2.928E-03	3.327E-03	0.1209	0.1374
97	0.660	0.250	205.4	2.498E+00	2.439E-03	2.771E-03	0.1007	0.1145
60	0.660	0.400	201.6	3.677E+00	3.577E-03	4.063E-03	0.1477	0.1678
65	0.700	0.500	197.8	4.385E+00	4.250E-03	4.825E-03	0.1755	0.1993
99	0.750	0.178	205.0	2.369E+00	2.312E-03	2.627E-03	0.0955	0.1085
100	0.755	0.400	206.8	6.779E+00	6.627E-03	7.533E-03	0.2737	0.3111
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 1.791
PITOT AT CENTER LINE = 1.813

RUN 23

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 12:52 46
DATE RECORDED: 6-JUN-95
TIME RECORDED: 21:23 08
00001098O

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
24	S1R21	ZERO	29-O	7.91	151.5	1287 67	30.00	9.96	39.96	0.16

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.0	0.016	0.722	3819.	1.427E-05	7.805E-08	6.9808E+05	1.314E+06	2.096E-02	0.133

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	240.3	6.260E+00	5.977E-03	6.815E-03	0.2852	0.3251
6	0.060	0.000	224.4	4.594E+00	4.320E-03	4.916E-03	0.2061	0.2345
7	0.080	0.000	214.5	4.028E+00	3.754E-03	4.266E-03	0.1791	0.2035
8	0.100	0.000	212.0	3.852E+00	3.581E-03	4.068E-03	0.1709	0.1941
10	0.150	0.000	214.3	3.242E+00	3.021E-03	3.432E-03	0.1441	0.1637
16	0.192	0.000	208.3	3.071E+00	2.845E-03	3.230E-03	0.1357	0.1541
20	0.250	0.000	200.4	2.778E+00	2.555E-03	2.898E-03	0.1219	0.1383
23	0.300	0.000	192.7	2.810E+00	2.566E-03	2.908E-03	0.1224	0.1387
30	0.350	0.000	194.0	2.694E+00	2.464E-03	2.792E-03	0.1175	0.1332
31	0.400	0.000	185.1	2.585E+00	2.344E-03	2.654E-03	0.1118	0.1266
33	0.450	0.000	185.1	2.504E+00	2.271E-03	2.572E-03	0.1084	0.1227
34	0.500	0.000	187.2	2.428E+00	2.207E-03	2.499E-03	0.1053	0.1192
37	0.550	0.000	191.4	2.703E+00	2.466E-03	2.794E-03	0.1176	0.1333
38	0.600	0.000	201.5	2.597E+00	2.391E-03	2.712E-03	0.1141	0.1294
40	0.650	0.000	207.4	2.307E+00	2.136E-03	2.425E-03	0.1019	0.1157
41	0.700	0.000	214.2	1.800E+00	1.677E-03	1.906E-03	0.0800	0.0909
43	0.750	0.000	228.5	4.399E+00	4.153E-03	4.728E-03	0.1981	0.2256
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	208.7	3.634E+00	3.368E-03	3.824E-03	0.1607	0.1824
11	0.150	0.091	206.3	3.426E+00	3.168E-03	3.597E-03	0.1512	0.1716
17	0.192	0.107	223.5	3.072E+00	2.887E-03	3.284E-03	0.1377	0.1567
87	0.300	-0.106	210.5	3.010E+00	2.795E-03	3.174E-03	0.1333	0.1514
88	0.300	0.061	199.6	2.842E+00	2.612E-03	2.962E-03	0.1246	0.1413
89	0.300	0.122	210.6	3.231E+00	3.000E-03	3.407E-03	0.1431	0.1626
24	0.300	0.160	213.0	3.047E+00	2.835E-03	3.221E-03	0.1352	0.1537
25	0.300	0.221	226.3	3.011E+00	2.837E-03	3.228E-03	0.1353	0.1540
90	0.400	-0.107	202.1	2.735E+00	2.519E-03	2.858E-03	0.1202	0.1364
32	0.400	0.107	192.7	2.574E+00	2.351E-03	2.664E-03	0.1122	0.1271
52	0.400	0.250	214.3	2.990E+00	2.786E-03	3.165E-03	0.1329	0.1510
91	0.425	0.061	192.1	2.597E+00	2.371E-03	2.686E-03	0.1131	0.1282
92	0.425	0.178	202.5	2.979E+00	2.745E-03	3.115E-03	0.1310	0.1486
93	0.500	-0.107	196.0	2.374E+00	2.175E-03	2.465E-03	0.1037	0.1176
35	0.500	0.107	185.5	2.366E+00	2.146E-03	2.430E-03	0.1024	0.1160
94	0.500	0.178	193.4	2.749E+00	2.512E-03	2.847E-03	0.1198	0.1358
53	0.500	0.250	201.8	2.909E+00	2.678E-03	3.039E-03	0.1278	0.1450
95	0.600	-0.250	256.3	2.444E+00	2.369E-03	2.707E-03	0.1130	0.1292
39	0.600	0.107	208.7	2.486E+00	2.304E-03	2.616E-03	0.1099	0.1248

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER.
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:52:46
DATE RECORDED: 6-JUN-95
TIME RECORDED: 21:23:08
0000102B1

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
24	S1R21	ZERO	29-O	7.91	151.5	1287.67	30.00	9.96	39.96	0.16

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.0	0.016	0.722	3819.	1.427E-05	7.805E-08	6.9808E+05	1.314E+06	2.096E-02	0.133

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	218.0	2.709E+00	2.532E-03	2.879E-03	0.1208	0.1373
98	0.660	-0.107	235.1	1.969E+00	1.871E-03	2.132E-03	0.0893	0.1017
96	0.660	0.107	211.6	2.618E+00	2.433E-03	2.764E-03	0.1161	0.1319
97	0.660	0.250	223.7	2.077E+00	1.952E-03	2.221E-03	0.0931	0.1060
60	0.660	0.400	215.4	3.378E+00	3.150E-03	3.580E-03	0.1503	0.1708
65	0.700	0.500	208.2	3.720E+00	3.446E-03	3.913E-03	0.1644	0.1867
99	0.750	0.178	232.1	4.664E+00	4.418E-03	5.032E-03	0.2108	0.2401
100	0.755	0.400	220.5	7.798E+00	7.307E-03	8.309E-03	0.3486	0.3964
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 1.342
PITOT AT CENTER LINE = 1.525

RUN 24

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:52:50
DATE RECORDED: 6-JUN-95
TIME RECORDED: 21:49:32
00001022

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
25	S1R22	ZERO	29-0	7.98	460.6	1322.67	30.00	9.96	39.96	0.15

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.4	0.048	2.132	3879.	4.082E-05	7.919E-08	1.9992E+06	3.762E+06	3.617E-02	0.373

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	555.0	8.925E+00	1.163E-02	1.405E-02	0.3214	0.3883
6	0.060	0.000	543.7	6.704E+00	8.606E-03	1.037E-02	0.2379	0.2866
7	0.080	0.000	534.8	5.490E+00	6.969E-03	8.375E-03	0.1926	0.2315
8	0.100	0.000	530.2	5.211E+00	6.576E-03	7.893E-03	0.1818	0.2182
10	0.150	0.000	521.9	4.005E+00	5.001E-03	5.990E-03	0.1382	0.1656
16	0.192	0.000	515.0	3.779E+00	4.678E-03	5.595E-03	0.1293	0.1547
20	0.250	0.000	517.5	3.633E+00	4.512E-03	5.399E-03	0.1247	0.1492
23	0.300	0.000	513.0	3.553E+00	4.388E-03	5.245E-03	0.1213	0.1450
30	0.350	0.000	508.9	3.106E+00	3.817E-03	4.558E-03	0.1055	0.1260
31	0.400	0.000	503.8	2.902E+00	3.544E-03	4.227E-03	0.0980	0.1169
33	0.450	0.000	503.6	2.893E+00	3.532E-03	4.212E-03	0.0976	0.1164
34	0.500	0.000	505.8	2.966E+00	3.631E-03	4.332E-03	0.1004	0.1198
37	0.550	0.000	506.1	2.944E+00	3.605E-03	4.302E-03	0.0997	0.1189
38	0.600	0.000	514.9	3.293E+00	4.076E-03	4.874E-03	0.1127	0.1348
40	0.650	0.000	523.4	3.143E+00	3.932E-03	4.712E-03	0.1087	0.1303
41	0.700	0.000	527.6	3.264E+00	4.106E-03	4.925E-03	0.1135	0.1361
43	0.750	0.000	528.4	3.405E+00	4.287E-03	5.144E-03	0.1185	0.1422
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	530.0	4.994E+00	6.300E-03	7.562E-03	0.1742	0.2091
11	0.150	0.091	521.5	4.729E+00	5.903E-03	7.070E-03	0.1632	0.1954
17	0.192	0.107	516.0	4.326E+00	5.363E-03	6.415E-03	0.1483	0.1773
87	0.300	-0.106	513.5	4.019E+00	4.967E-03	5.938E-03	0.1373	0.1641
88	0.300	0.061	516.3	3.658E+00	4.537E-03	5.427E-03	0.1254	0.1500
89	0.300	0.122	518.6	4.266E+00	5.305E-03	6.349E-03	0.1466	0.1755
24	0.300	0.160	516.5	4.269E+00	5.296E-03	6.335E-03	0.1464	0.1751
25	0.300	0.221	513.2	4.051E+00	5.005E-03	5.982E-03	0.1384	0.1654
90	0.400	-0.107	505.6	3.259E+00	3.988E-03	4.759E-03	0.1103	0.1315
32	0.400	0.107	503.6	3.204E+00	3.913E-03	4.666E-03	0.1082	0.1290
52	0.400	0.250	506.6	3.734E+00	4.575E-03	5.460E-03	0.1265	0.1509
91	0.425	0.061	505.0	2.977E+00	3.640E-03	4.343E-03	0.1006	0.1201
92	0.425	0.178	506.2	3.865E+00	4.733E-03	5.648E-03	0.1308	0.1561
93	0.500	-0.107	502.5	2.786E+00	3.397E-03	4.050E-03	0.0939	0.1120
35	0.500	0.107	501.0	2.586E+00	3.147E-03	3.751E-03	0.0870	0.1037
94	0.500	0.178	503.9	3.414E+00	4.169E-03	4.973E-03	0.1153	0.1375
53	0.500	0.250	506.7	3.695E+00	4.529E-03	5.405E-03	0.1252	0.1494
95	0.600	-0.250	511.4	3.020E+00	3.723E-03	4.448E-03	0.1029	0.1230
39	0.600	0.107	512.4	2.969E+00	3.665E-03	4.380E-03	0.1013	0.1211

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 12:52 50
DATE RECORDED: 6-JUN-95
TIME RECORDED: 21:49 32
0000109B3

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
25	S1R22	ZERO	29-0	7.98	460.6	1322.67	30.00	9.96	39.96	0.15

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.4	0.048	2.132	3879.	4.082E-05	7.919E-08	1.9992E+06	3.762E+06	3.617E-02	0.373

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	513.1	3.215E+00	3.972E-03	4.748E-03	0.1098	0.1313
98	0.660	-0.107	522.0	3.148E+00	3.932E-03	4.710E-03	0.1087	0.1302
96	0.660	0.107	525.1	3.568E+00	4.474E-03	5.363E-03	0.1237	0.1483
97	0.660	0.250	525.9	2.884E+00	3.620E-03	4.340E-03	0.1001	0.1200
60	0.660	0.400	541.5	3.671E+00	4.699E-03	5.657E-03	0.1299	0.1564
65	0.700	0.500	551.4	4.217E+00	5.468E-03	6.600E-03	0.1512	0.1825
99	0.750	0.178	529.7	3.259E+00	4.110E-03	4.933E-03	0.1136	0.1364
100	0.755	0.400	548.2	3.368E+00	4.349E-03	5.244E-03	0.1202	0.1450
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 3.883
PITOT AT CENTER LINE = 4.431

RUN 25

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:52:54
DATE RECORDED: 6-JUN-95
TIME RECORDED: 22:02:08
000010984

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
26	S1R23	ZERO	29-0	7.96	329.6	1302.67	30.00	9.96	39.96	0.16

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.2	0.035	1.538	3846.	2.995E-05	7.822E-08	1.4727E+06	2.771E+06	3.065E-02	0.376

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	543.3	7.567E+00	9.965E-03	1.203E-02	0.3252	0.3925
6	0.060	0.000	533.4	5.538E+00	7.199E-03	8.667E-03	0.2349	0.2828
7	0.080	0.000	526.0	4.628E+00	5.958E-03	7.159E-03	0.1944	0.2336
8	0.100	0.000	522.1	4.282E+00	5.487E-03	6.586E-03	0.1790	0.2149
10	0.150	0.000	515.0	3.344E+00	4.246E-03	5.088E-03	0.1386	0.1660
16	0.192	0.000	508.2	3.168E+00	3.987E-03	4.769E-03	0.1301	0.1556
20	0.250	0.000	507.4	2.930E+00	3.684E-03	4.406E-03	0.1202	0.1438
23	0.300	0.000	503.2	2.870E+00	3.590E-03	4.289E-03	0.1171	0.1399
30	0.350	0.000	501.6	2.561E+00	3.196E-03	3.817E-03	0.1043	0.1246
31	0.400	0.000	498.4	2.300E+00	2.860E-03	3.413E-03	0.0933	0.1114
33	0.450	0.000	500.2	2.332E+00	2.905E-03	3.469E-03	0.0948	0.1132
34	0.500	0.000	503.6	2.325E+00	2.910E-03	3.476E-03	0.0949	0.1134
37	0.550	0.000	505.2	2.337E+00	2.930E-03	3.502E-03	0.0956	0.1143
38	0.600	0.000	512.6	2.520E+00	3.190E-03	3.819E-03	0.1041	0.1246
40	0.650	0.000	520.0	2.163E+00	2.763E-03	3.315E-03	0.0902	0.1082
41	0.700	0.000	521.5	1.988E+00	2.545E-03	3.054E-03	0.0830	0.0997
43	0.750	0.000	519.8	1.482E+00	1.892E-03	2.270E-03	0.0618	0.0741
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	522.4	4.289E+00	5.497E-03	6.599E-03	0.1794	0.2153
11	0.150	0.091	514.8	3.845E+00	4.880E-03	5.846E-03	0.1592	0.1908
17	0.192	0.107	511.5	3.539E+00	4.472E-03	5.354E-03	0.1459	0.1747
87	0.300	-0.106	503.0	3.258E+00	4.074E-03	4.867E-03	0.1330	0.1588
88	0.300	0.061	506.3	3.022E+00	3.795E-03	4.537E-03	0.1238	0.1480
89	0.300	0.122	507.8	3.418E+00	4.299E-03	5.142E-03	0.1403	0.1678
24	0.300	0.160	505.9	3.636E+00	4.564E-03	5.456E-03	0.1489	0.1780
25	0.300	0.221	503.2	3.593E+00	4.494E-03	5.369E-03	0.1467	0.1752
90	0.400	-0.107	499.8	2.626E+00	3.271E-03	3.904E-03	0.1067	0.1274
32	0.400	0.107	498.7	2.584E+00	3.214E-03	3.835E-03	0.1049	0.1252
52	0.400	0.250	500.7	3.154E+00	3.933E-03	4.695E-03	0.1283	0.1532
91	0.425	0.061	501.0	2.478E+00	3.091E-03	3.691E-03	0.1009	0.1204
92	0.425	0.178	501.5	3.144E+00	3.925E-03	4.687E-03	0.1281	0.1529
93	0.500	-0.107	501.2	2.217E+00	2.766E-03	3.303E-03	0.0903	0.1078
35	0.500	0.107	500.1	2.097E+00	2.612E-03	3.119E-03	0.0852	0.1018
94	0.500	0.178	502.1	2.750E+00	3.435E-03	4.103E-03	0.1121	0.1339
53	0.500	0.250	503.8	2.977E+00	3.727E-03	4.453E-03	0.1216	0.1453
95	0.600	-0.250	510.0	2.372E+00	2.992E-03	3.581E-03	0.0976	0.1169
39	0.600	0.107	511.3	2.233E+00	2.822E-03	3.378E-03	0.0921	0.1102

RUN 26

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:52:54
DATE RECORDED: 6-JUN-95
TIME RECORDED: 22:02:08
00001098S

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
26	S1R23	ZERO	29-O	7.96	329.6	1302.67	30.00	9.96	39.96	0.16

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.2	0.035	1.538	3846.	2.995E-05	7.822E-08	1.4727E+06	2.771E+06	3.065E-02	0.376

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	512.0	2.544E+00	3.217E-03	3.852E-03	0.1050	0.1257
98	0.660	-0.107	519.9	2.171E+00	2.773E-03	3.327E-03	0.0905	0.1086
96	0.660	0.107	521.6	2.467E+00	3.158E-03	3.790E-03	0.1031	0.1237
97	0.660	0.250	522.1	2.073E+00	2.656E-03	3.188E-03	0.0867	0.1040
60	0.660	0.400	532.5	2.955E+00	3.837E-03	4.618E-03	0.1252	0.1507
65	0.700	0.500	538.9	3.412E+00	4.467E-03	5.385E-03	0.1458	0.1757
99	0.750	0.178	521.7	1.507E+00	1.929E-03	2.315E-03	0.0630	0.0756
100	0.755	0.400	533.8	2.071E+00	2.693E-03	3.242E-03	0.0879	0.1058
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 2.798
PITOT AT CENTER LINE = 3.018

RUN 26

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:52:58
DATE RECORDED: 6-JUN-95
TIME RECORDED: 22:11:26
0000010986

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
27	S1R24	ZERO	29-0	7.93	206.0	1241.67	30.00	9.97	39.97	0.16

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.9	0.022	0.974	3748.	1.997E-05	7.474E-08	1.0015E+06	1.885E+06	2.419E-02	0.395

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	535.9	5.510E+00	7.807E-03	9.473E-03	0.3228	0.3917
6	0.060	0.000	528.3	4.063E+00	5.695E-03	6.895E-03	0.2355	0.2851
7	0.080	0.000	522.0	3.413E+00	4.743E-03	5.732E-03	0.1961	0.2370
8	0.100	0.000	518.3	3.145E+00	4.347E-03	5.248E-03	0.1797	0.2170
10	0.150	0.000	512.4	2.399E+00	3.289E-03	3.964E-03	0.1360	0.1639
16	0.192	0.000	505.8	2.263E+00	3.075E-03	3.699E-03	0.1271	0.1529
20	0.250	0.000	505.1	2.112E+00	2.868E-03	3.449E-03	0.1186	0.1426
23	0.300	0.000	501.1	2.083E+00	2.812E-03	3.378E-03	0.1163	0.1397
30	0.350	0.000	500.7	1.859E+00	2.509E-03	3.014E-03	0.1037	0.1246
31	0.400	0.000	498.2	1.789E+00	2.406E-03	2.888E-03	0.0995	0.1194
33	0.450	0.000	499.1	1.749E+00	2.355E-03	2.828E-03	0.0974	0.1169
34	0.500	0.000	502.1	1.709E+00	2.311E-03	2.778E-03	0.0956	0.1148
37	0.550	0.000	504.0	1.695E+00	2.298E-03	2.764E-03	0.0950	0.1143
38	0.600	0.000	509.4	1.810E+00	2.471E-03	2.976E-03	0.1022	0.1230
40	0.650	0.000	516.1	1.449E+00	1.998E-03	2.410E-03	0.0826	0.0996
41	0.700	0.000	516.4	7.407E-01	1.021E-03	1.232E-03	0.0422	0.0509
43	0.750	0.000	517.8	1.563E+00	2.160E-03	2.607E-03	0.0893	0.1078
46	0.850	0.000	*****	********	********	********	*******	*******
49	0.950	0.000	*****	********	********	********	*******	*******
86	0.125	0.055	518.4	3.078E+00	4.255E-03	5.137E-03	0.1759	0.2124
11	0.150	0.091	512.5	2.889E+00	3.962E-03	4.775E-03	0.1638	0.1974
17	0.192	0.107	509.7	2.535E+00	3.463E-03	4.171E-03	0.1432	0.1724
87	0.300	-0.106	501.3	2.362E+00	3.190E-03	3.833E-03	0.1319	0.1585
88	0.300	0.061	504.3	2.105E+00	2.855E-03	3.433E-03	0.1180	0.1419
89	0.300	0.122	505.5	2.410E+00	3.273E-03	3.937E-03	0.1353	0.1628
24	0.300	0.160	503.9	2.535E+00	3.435E-03	4.131E-03	0.1420	0.1708
25	0.300	0.221	502.1	2.615E+00	3.536E-03	4.249E-03	0.1462	0.1757
90	0.400	-0.107	499.4	1.882E+00	2.535E-03	3.044E-03	0.1048	0.1259
32	0.400	0.107	498.5	1.899E+00	2.555E-03	3.067E-03	0.1056	0.1268
52	0.400	0.250	500.9	2.244E+00	3.029E-03	3.639E-03	0.1252	0.1504
91	0.425	0.061	500.7	1.756E+00	2.369E-03	2.846E-03	0.0980	0.1177
92	0.425	0.178	500.8	2.217E+00	2.993E-03	3.596E-03	0.1237	0.1487
93	0.500	-0.107	500.2	1.644E+00	2.217E-03	2.663E-03	0.0917	0.1101
35	0.500	0.107	500.0	1.545E+00	2.084E-03	2.503E-03	0.0861	0.1035
94	0.500	0.178	501.4	1.987E+00	2.684E-03	3.224E-03	0.1109	0.1333
53	0.500	0.250	503.2	2.162E+00	2.927E-03	3.519E-03	0.1210	0.1455
95	0.600	-0.250	508.0	1.700E+00	2.317E-03	2.790E-03	0.0958	0.1153
39	0.600	0.107	509.5	1.594E+00	2.177E-03	2.621E-03	0.0900	0.1084

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:52:58
DATE RECORDED: 6-JUN-95
TIME RECORDED: 22:11:26
00001098?

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
27	S1R24	ZERO	29-O	7.93	206.0	1241.67	30.00	9.97	39.97	0.16

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.9	0.022	0.974	3748.	1.997E-05	7.474E-08	1.0015E+06	1.885E+06	2.419E-02	0.395

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	510.5	1.873E+00	2.562E-03	3.086E-03	0.1059	0.1276
98	0.660	-0.107	516.1	1.444E+00	1.991E-03	2.402E-03	0.0823	0.0993
96	0.660	0.107	517.7	1.610E+00	2.224E-03	2.685E-03	0.0920	0.1110
97	0.660	0.250	519.4	1.377E+00	1.906E-03	2.302E-03	0.0788	0.0952
60	0.660	0.400	528.1	2.085E+00	2.922E-03	3.537E-03	0.1208	0.1462
65	0.700	0.500	533.9	2.470E+00	3.490E-03	4.233E-03	0.1443	0.1750
99	0.750	0.178	519.6	1.113E+00	1.542E-03	1.862E-03	0.0637	0.0770
100	0.755	0.400	528.8	8.798E-01	1.234E-03	1.494E-03	0.0510	0.0618
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 1.779
PITOT AT CENTER LINE = 1.797

RUN 27

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:54:00
DATE RECORDED: 7-JUN-95
TIME RECORDED: 17:22:25
000010931

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
28	S2R 1	E-2&1-2	29-0	7.99	577.0	1323.67	30.00	9.98	39.98	-0.15

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.060	2.659	3882	5.082E-05	7.905E-08	2.4958E+06	4.696E+06	4.040E-02	0.411

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	592.0	9.985E+00	1.365E-02	1.666E-02	0.3378	0.4124
6	0.060	0.000	580.4	7.271E+00	9.783E-03	1.190E-02	0.2421	0.2946
7	0.080	0.000	572.7	6.114E+00	8.141E-03	9.883E-03	0.2015	0.2446
8	0.100	0.000	570.5	5.668E+00	7.526E-03	9.130E-03	0.1863	0.2260
10	0.150	0.000	567.4	4.482E+00	5.926E-03	7.184E-03	0.1467	0.1778
16	0.192	0.000	562.1	3.907E+00	5.131E-03	6.210E-03	0.1270	0.1537
20	0.250	0.000	565.4	3.927E+00	5.179E-03	6.275E-03	0.1282	0.1553
23	0.300	0.000	561.5	3.598E+00	4.721E-03	5.713E-03	0.1169	0.1414
30	0.350	0.000	563.4	3.520E+00	4.630E-03	5.607E-03	0.1146	0.1388
31	0.400	0.000	559.3	3.142E+00	4.111E-03	4.972E-03	0.1017	0.1231
33	0.450	0.000	560.8	3.207E+00	4.204E-03	5.086E-03	0.1040	0.1259
34	0.500	0.000	564.0	3.278E+00	4.315E-03	5.225E-03	0.1068	0.1293
37	0.550	0.000	565.9	3.293E+00	4.346E-03	5.266E-03	0.1076	0.1303
38	0.600	0.000	575.8	3.910E+00	5.228E-03	6.353E-03	0.1294	0.1572
40	0.650	0.000	583.4	4.602E+00	6.216E-03	7.569E-03	0.1538	0.1873
41	0.700	0.000	583.9	5.406E+00	7.307E-03	8.900E-03	0.1809	0.2203
43	0.750	0.000	583.4	6.239E+00	8.428E-03	1.026E-02	0.2086	0.2540
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	573.1	5.626E+00	7.496E-03	9.101E-03	0.1855	0.2252
11	0.150	0.091	567.5	5.237E+00	6.926E-03	8.396E-03	0.1714	0.2078
17	0.192	0.107	569.1	4.709E+00	6.241E-03	7.569E-03	0.1545	0.1873
87	0.300	-0.106	564.4	4.304E+00	5.669E-03	6.866E-03	0.1403	0.1699
88	0.300	0.061	566.1	3.897E+00	5.144E-03	6.233E-03	0.1273	0.1543
89	0.300	0.122	568.7	4.649E+00	6.158E-03	7.467E-03	0.1524	0.1848
24	0.300	0.160	566.8	4.899E+00	6.473E-03	7.845E-03	0.1602	0.1942
25	0.300	0.221	565.6	4.793E+00	6.323E-03	7.661E-03	0.1565	0.1896
90	0.400	-0.107	563.0	3.509E+00	4.614E-03	5.586E-03	0.1142	0.1383
32	0.400	0.107	564.3	4.483E+00	5.903E-03	7.150E-03	0.1461	0.1770
52	0.400	0.250	566.0	4.114E+00	5.429E-03	6.579E-03	0.1344	0.1628
91	0.425	0.061	564.1	3.582E+00	4.716E-03	5.711E-03	0.1167	0.1414
92	0.425	0.178	566.8	4.833E+00	6.385E-03	7.738E-03	0.1580	0.1915
93	0.500	-0.107	562.6	3.102E+00	4.075E-03	4.933E-03	0.1009	0.1221
35	0.500	0.107	567.9	5.267E+00	6.969E-03	8.449E-03	0.1725	0.2091
94	0.500	0.178	569.4	5.446E+00	7.221E-03	8.758E-03	0.1787	0.2168
53	0.500	0.250	591.3	1.032E+01	1.409E-02	1.720E-02	0.3488	0.4258
95	0.600	-0.250	572.9	3.486E+00	4.643E-03	5.637E-03	0.1149	0.1395
39	0.600	0.107	582.0	6.428E+00	8.667E-03	1.055E-02	0.2145	0.2611

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:54 00
DATE RECORDED: 7-JUN-95
TIME RECORDED: 17:22.25
000010992

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
28	S2R 1	E-2&1-2	29-O	7.99	577.0	1323.67	30.00	9.98	39.98	-0.15

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.060	2.659	3882.	5.082E-05	7.905E-08	2.4958E+06	4.696E+06	4.040E-02	0.411

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	581.0	6.488E+00	8.735E-03	1.063E-02	0.2162	0.2631
98	0.660	-0.107	582.2	4.093E+00	5.519E-03	6.719E-03	0.1366	0.1663
96	0.660	0.107	588.5	7.180E+00	9.765E-03	1.191E-02	0.2417	0.2948
97	0.660	0.250	589.3	7.148E+00	9.734E-03	1.187E-02	0.2409	0.2939
60	0.660	0.400	603.0	1.147E+01	1.591E-02	1.950E-02	0.3939	0.4825
65	0.700	0.500	606.0	1.381E+01	1.924E-02	2.359E-02	0.4763	0.5840
99	0.750	0.178	588.5	7.941E+00	1.080E-02	1.317E-02	0.2674	0.3261
100	0.755	0.400	597.5	1.089E+01	1.500E-02	1.834E-02	0.3712	0.4540
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 4.820
PITOT AT CENTER LINE = 5.188

RUN 28

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 12:54 04
DATE RECORDED: 7-JUN-95
TIME RECORDED: 17:37 14
000010923

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
29	S2R 3	E-2&I-2	29-O	7.98	463.6	1323.67	30.00	9.99	39.99	-0.12

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.5	0.048	2.146	3880.	4.105E-05	7.925E-08	2.0099E+06	3.782E+06	3.630E-02	0.414

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	593.6	8.885E+00	1.217E-02	1.487E-02	0.3353	0.4096
6	0.060	0.000	583.3	6.460E+00	8.725E-03	1.062E-02	0.2404	0.2927
7	0.080	0.000	576.1	5.445E+00	7.283E-03	8.850E-03	0.2007	0.2438
8	0.100	0.000	573.9	5.061E+00	6.750E-03	8.198E-03	0.1860	0.2259
10	0.150	0.000	570.4	3.977E+00	5.279E-03	6.405E-03	0.1455	0.1765
16	0.192	0.000	564.9	3.503E+00	4.616E-03	5.591E-03	0.1272	0.1541
20	0.250	0.000	567.1	3.491E+00	4.614E-03	5.593E-03	0.1271	0.1541
23	0.300	0.000	563.1	3.158E+00	4.152E-03	5.027E-03	0.1144	0.1385
30	0.350	0.000	565.0	3.008E+00	3.965E-03	4.802E-03	0.1092	0.1323
31	0.400	0.000	561.9	2.760E+00	3.624E-03	4.386E-03	0.0998	0.1208
33	0.450	0.000	563.3	2.732E+00	3.593E-03	4.350E-03	0.0990	0.1199
34	0.500	0.000	566.4	2.769E+00	3.657E-03	4.431E-03	0.1007	0.1221
37	0.550	0.000	567.4	2.679E+00	3.542E-03	4.293E-03	0.0976	0.1183
38	0.600	0.000	574.1	2.795E+00	3.729E-03	4.529E-03	0.1027	0.1248
40	0.650	0.000	581.3	2.851E+00	3.840E-03	4.674E-03	0.1058	0.1288
41	0.700	0.000	582.9	2.925E+00	3.949E-03	4.808E-03	0.1088	0.1325
43	0.750	0.000	581.2	2.965E+00	3.994E-03	4.860E-03	0.1100	0.1339
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	575.9	4.992E+00	6.675E-03	8.111E-03	0.1839	0.2235
11	0.150	0.091	570.3	4.635E+00	6.152E-03	7.464E-03	0.1695	0.2056
17	0.192	0.107	571.0	4.193E+00	5.571E-03	6.759E-03	0.1535	0.1862
87	0.300	-0.106	565.6	3.787E+00	4.996E-03	6.053E-03	0.1376	0.1668
88	0.300	0.061	567.1	3.416E+00	4.515E-03	5.472E-03	0.1244	0.1508
89	0.300	0.122	569.4	4.068E+00	5.393E-03	6.541E-03	0.1486	0.1802
24	0.300	0.160	567.5	4.266E+00	5.641E-03	6.838E-03	0.1554	0.1884
25	0.300	0.221	566.5	4.196E+00	5.542E-03	6.716E-03	0.1527	0.1850
90	0.400	-0.107	565.2	3.110E+00	4.100E-03	4.967E-03	0.1130	0.1368
32	0.400	0.107	562.9	2.946E+00	3.872E-03	4.687E-03	0.1067	0.1291
52	0.400	0.250	567.8	3.633E+00	4.807E-03	5.828E-03	0.1324	0.1606
91	0.425	0.061	565.3	2.866E+00	3.780E-03	4.579E-03	0.1041	0.1262
92	0.425	0.178	566.4	3.674E+00	4.852E-03	5.880E-03	0.1337	0.1620
93	0.500	-0.107	565.3	2.623E+00	3.458E-03	4.189E-03	0.0953	0.1154
35	0.500	0.107	563.4	2.474E+00	3.253E-03	3.939E-03	0.0896	0.1085
94	0.500	0.178	566.4	3.166E+00	4.181E-03	5.066E-03	0.1152	0.1396
53	0.500	0.250	587.1	8.086E+00	1.098E-02	1.338E-02	0.3025	0.3687
95	0.600	-0.250	572.8	2.832E+00	3.772E-03	4.579E-03	0.1039	0.1261
39	0.600	0.107	574.4	2.793E+00	3.727E-03	4.527E-03	0.1027	0.1247

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:54 04
DATE RECORDED: 7-JUN-95
TIME RECORDED: 17:37.14
000010994

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
29	S2R 3	E-2&I-2	29-O	7.98	463.6	1323.67	30.00	9.99	39.99	-0.12

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.5	0.048	2.146	3880.	4.105E-05	7.925E-08	2.0099E+06	3.782E+06	3.630E-02	0.414

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	574.6	2.899E+00	3.870E-03	4.700E-03	0.1066	0.1295
98	0.660	-0.107	581.9	2.847E+00	3.838E-03	4.671E-03	0.1057	0.1287
96	0.660	0.107	582.8	3.248E+00	4.384E-03	5.338E-03	0.1208	0.1471
97	0.660	0.250	583.1	2.691E+00	3.634E-03	4.424E-03	0.1001	0.1219
60	0.660	0.400	603.6	9.689E+00	1.345E-02	1.649E-02	0.3707	0.4542
65	0.700	0.500	607.8	1.157E+01	1.617E-02	1.983E-02	0.4454	0.5464
99	0.750	0.178	583.5	2.868E+00	3.875E-03	4.719E-03	0.1068	0.1300
100	0.755	0.400	601.1	9.267E+00	1.282E-02	1.570E-02	0.3533	0.4325
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 3.891
PITOT AT CENTER LINE = 4.117

RUN 29

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:54:09
DATE RECORDED: 7-JUN-95
TIME RECORDED: 17:56:41
000010995

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
30	S2R 5	E-2&I-2	29-O	7.96	329.0	1298.67	30.00	9.98	39.98	-0.12

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.9	0.035	1.535	3840.	3.000E-05	7.796E-08	1.4773E+06	2.780E+06	3.060E-02	0.416

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	578.0	7.316E+00	1.015E-02	1.238E-02	0.3318	0.4047
6	0.060	0.000	569.2	5.356E+00	7.343E-03	8.933E-03	0.2400	0.2919
7	0.080	0.000	562.5	4.487E+00	6.095E-03	7.401E-03	0.1992	0.2418
8	0.100	0.000	560.7	4.153E+00	5.627E-03	6.829E-03	0.1839	0.2232
10	0.150	0.000	558.2	3.283E+00	4.434E-03	5.377E-03	0.1449	0.1757
16	0.192	0.000	553.2	2.878E+00	3.860E-03	4.675E-03	0.1261	0.1528
20	0.250	0.000	555.4	2.797E+00	3.763E-03	4.559E-03	0.1230	0.1490
23	0.300	0.000	552.0	2.593E+00	3.473E-03	4.204E-03	0.1135	0.1374
30	0.350	0.000	554.9	1.992E+00	2.679E-03	3.245E-03	0.0875	0.1061
31	0.400	0.000	552.2	2.263E+00	3.032E-03	3.670E-03	0.0991	0.1199
33	0.450	0.000	554.0	2.255E+00	3.028E-03	3.668E-03	0.0990	0.1199
34	0.500	0.000	557.6	2.218E+00	2.992E-03	3.628E-03	0.0978	0.1186
37	0.550	0.000	559.5	2.080E+00	2.815E-03	3.415E-03	0.0920	0.1116
38	0.600	0.000	565.9	2.138E+00	2.917E-03	3.545E-03	0.0953	0.1159
40	0.650	0.000	572.4	1.982E+00	2.728E-03	3.322E-03	0.0892	0.1086
41	0.700	0.000	572.8	1.801E+00	2.481E-03	3.022E-03	0.0811	0.0987
43	0.750	0.000	571.5	1.325E+00	1.822E-03	2.218E-03	0.0595	0.0725
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	562.9	4.150E+00	5.640E-03	6.849E-03	0.1843	0.2238
11	0.150	0.091	557.5	3.772E+00	5.090E-03	6.171E-03	0.1663	0.2017
17	0.192	0.107	559.1	3.464E+00	4.684E-03	5.681E-03	0.1530	0.1856
87	0.300	-0.106	554.2	3.027E+00	4.066E-03	4.925E-03	0.1329	0.1610
88	0.300	0.061	556.0	2.864E+00	3.856E-03	4.674E-03	0.1260	0.1527
89	0.300	0.122	557.8	3.287E+00	4.436E-03	5.379E-03	0.1450	0.1758
24	0.300	0.160	555.6	3.443E+00	4.634E-03	5.615E-03	0.1514	0.1835
25	0.300	0.221	555.2	3.426E+00	4.608E-03	5.584E-03	0.1506	0.1825
90	0.400	-0.107	555.9	2.546E+00	3.428E-03	4.154E-03	0.1120	0.1358
32	0.400	0.107	553.2	2.392E+00	3.208E-03	3.885E-03	0.1048	0.1269
52	0.400	0.250	557.9	3.000E+00	4.049E-03	4.910E-03	0.1323	0.1604
91	0.425	0.061	555.8	2.302E+00	3.099E-03	3.756E-03	0.1013	0.1227
92	0.425	0.178	555.9	2.888E+00	3.888E-03	4.712E-03	0.1271	0.1540
93	0.500	-0.107	557.2	2.143E+00	2.891E-03	3.505E-03	0.0945	0.1145
35	0.500	0.107	554.5	2.018E+00	2.711E-03	3.285E-03	0.0886	0.1073
94	0.500	0.178	557.0	2.557E+00	3.448E-03	4.179E-03	0.1127	0.1366
53	0.500	0.250	560.7	3.070E+00	4.160E-03	5.048E-03	0.1359	0.1650
95	0.600	-0.250	565.3	2.280E+00	3.109E-03	3.778E-03	0.1016	0.1235
39	0.600	0.107	565.8	2.077E+00	2.835E-03	3.445E-03	0.0926	0.1126

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:54:09
DATE RECORDED: 7-JUN-95
TIME RECORDED: 17:56:41
000010936

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
30	S2R 5	E-2&1-2	29-O	7.96	329.0	1298.67	30.00	9.98	39.98	-0.12

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.9	0.035	1.535	3840.	3.000E-05	7.796E-08	1.4773E+06	2.780E+06	3.060E-02	0.416

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	565.4	2.277E+00	3.105E-03	3.773E-03	0.1015	0.1233
98	0.660	-0.107	573.5	2.074E+00	2.859E-03	3.483E-03	0.0934	0.1138
96	0.660	0.107	573.0	2.262E+00	3.118E-03	3.797E-03	0.1019	0.1241
97	0.660	0.250	573.5	1.933E+00	2.666E-03	3.248E-03	0.0871	0.1061
60	0.660	0.400	578.5	2.970E+00	4.124E-03	5.031E-03	0.1348	0.1644
65	0.700	0.500	579.6	3.428E+00	4.767E-03	5.818E-03	0.1558	0.1901
99	0.750	0.178	573.2	1.381E+00	1.903E-03	2.318E-03	0.0622	0.0758
100	0.755	0.400	576.3	2.115E+00	2.927E-03	3.569E-03	0.0957	0.1166
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 2.788
PITOT AT CENTER LINE = 3.104

RUN 30

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:54:13
DATE RECORDED: 7-JUN-95
TIME RECORDED: 18:18.46
000010997

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
31	S2R 7	E-2&I-2	29-0	7.93	206.4	1238.67	30.00	9.98	39.98	-0.10

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (PN=0.0175FT)	TW/TT
92.6	0.022	0.976	3743.	2.006E-05	7.454E-08	1.0074E+06	1.896E+06	2.420E-02	0.440

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	572.6	5.322E+00	7.991E-03	9.817E-03	0.3302	0.4056
6	0.060	0.000	566.1	3.860E+00	5.740E-03	7.036E-03	0.2372	0.2907
7	0.080	0.000	560.5	3.272E+00	4.825E-03	5.903E-03	0.1994	0.2439
8	0.100	0.000	559.5	3.021E+00	4.449E-03	5.441E-03	0.1838	0.2248
10	0.150	0.000	558.8	2.346E+00	3.451E-03	4.219E-03	0.1426	0.1744
16	0.192	0.000	554.5	2.078E+00	3.037E-03	3.708E-03	0.1255	0.1532
20	0.250	0.000	557.2	2.024E+00	2.970E-03	3.630E-03	0.1227	0.1500
23	0.300	0.000	553.9	1.881E+00	2.746E-03	3.353E-03	0.1135	0.1385
30	0.350	0.000	557.0	1.360E+00	1.994E-03	2.437E-03	0.0824	0.1007
31	0.400	0.000	553.9	1.652E+00	2.413E-03	2.945E-03	0.0997	0.1217
33	0.450	0.000	555.5	1.631E+00	2.387E-03	2.916E-03	0.0986	0.1205
34	0.500	0.000	558.7	1.575E+00	2.317E-03	2.833E-03	0.0957	0.1171
37	0.550	0.000	560.5	1.491E+00	2.199E-03	2.690E-03	0.0909	0.1112
38	0.600	0.000	565.3	1.528E+00	2.269E-03	2.781E-03	0.0938	0.1149
40	0.650	0.000	570.0	1.256E+00	1.878E-03	2.305E-03	0.0776	0.0953
41	0.700	0.000	568.3	6.656E-01	9.928E-04	1.218E-03	0.0410	0.0503
43	0.750	0.000	570.0	1.642E+00	2.455E-03	3.014E-03	0.1015	0.1245
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	562.0	2.917E+00	4.310E-03	5.276E-03	0.1781	0.2180
11	0.150	0.091	557.4	2.717E+00	3.989E-03	4.875E-03	0.1648	0.2015
17	0.192	0.107	559.7	2.452E+00	3.611E-03	4.417E-03	0.1492	0.1825
87	0.300	-0.106	555.1	2.175E+00	3.181E-03	3.885E-03	0.1315	0.1606
88	0.300	0.061	557.7	1.971E+00	2.895E-03	3.538E-03	0.1196	0.1462
89	0.300	0.122	558.8	2.330E+00	3.427E-03	4.190E-03	0.1416	0.1731
24	0.300	0.160	556.3	2.435E+00	3.569E-03	4.360E-03	0.1475	0.1802
25	0.300	0.221	556.2	2.455E+00	3.598E-03	4.395E-03	0.1487	0.1816
90	0.400	-0.107	557.2	1.869E+00	2.743E-03	3.353E-03	0.1134	0.1385
32	0.400	0.107	554.7	1.784E+00	2.608E-03	3.185E-03	0.1078	0.1316
52	0.400	0.250	558.8	2.176E+00	3.200E-03	3.913E-03	0.1322	0.1617
91	0.425	0.061	557.5	1.714E+00	2.517E-03	3.076E-03	0.1040	0.1271
92	0.425	0.178	556.5	2.074E+00	3.041E-03	3.715E-03	0.1256	0.1535
93	0.500	-0.107	558.2	1.526E+00	2.242E-03	2.741E-03	0.0926	0.1133
35	0.500	0.107	555.9	1.482E+00	2.170E-03	2.652E-03	0.0897	0.1096
94	0.500	0.178	557.6	1.872E+00	2.749E-03	3.360E-03	0.1136	0.1388
53	0.500	0.250	560.5	2.122E+00	3.129E-03	3.828E-03	0.1293	0.1582
95	0.600	-0.250	564.3	1.649E+00	2.446E-03	2.996E-03	0.1011	0.1238
39	0.600	0.107	565.5	1.552E+00	2.306E-03	2.825E-03	0.0953	0.1168

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:54:13
DATE RECORDED: 7-JUN-95
TIME RECORDED: 18:18:46
0000100918

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
31	S2R 7	E-2&I-2	29-O	7.93	206.4	1238.67	30.00	9.98	39.98	-0.15

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.6	0.022	0.976	3743.	2.006E-05	7.454E-08	1.0074E+06	1.896E+06	2.420E-02	0.440

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	564.7	1.647E+00	2.444E-03	2.994E-03	0.1010	0.1237
98	0.660	-0.107	570.5	1.292E+00	1.934E-03	2.374E-03	0.0799	0.0981
96	0.660	0.107	569.6	1.421E+00	2.124E-03	2.606E-03	0.0878	0.1077
97	0.660	0.250	570.8	1.267E+00	1.898E-03	2.330E-03	0.0784	0.0963
60	0.660	0.400	573.8	2.028E+00	3.050E-03	3.748E-03	0.1260	0.1549
65	0.700	0.500	575.1	2.381E+00	3.588E-03	4.411E-03	0.1483	0.1823
99	0.750	0.178	570.4	1.260E+00	1.885E-03	2.314E-03	0.0779	0.0956
100	0.755	0.400	571.9	1.153E+00	1.729E-03	2.123E-03	0.0714	0.0877
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 1.782
PITOT AT CENTER LINE = 1.799

RUN 31

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:54.17
DATE RECORDED: 7-JUN-95
TIME RECORDED: 18:45.11
000010999

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
32	S2R 2	E-2&I-2	29-0	7.98	460.7	1320.67	30.00	9.98	39.98	-0.01

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.3	0.048	2.133	3876	4.090E-05	7.906E-08	2.0049E+06	3.773E+06	3.617E-02	0.139

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	261.6	9.571E+00	9.037E-03	1.032E-02	0.2498	0.2854
6	0.060	0.000	247.0	7.606E+00	7.084E-03	8.077E-03	0.1958	0.2233
7	0.080	0.000	239.8	7.451E+00	6.894E-03	7.853E-03	0.1906	0.2171
8	0.100	0.000	235.2	6.540E+00	6.025E-03	6.860E-03	0.1666	0.1896
10	0.150	0.000	236.3	5.403E+00	4.983E-03	5.674E-03	0.1377	0.1569
16	0.192	0.000	224.3	4.325E+00	3.945E-03	4.485E-03	0.1091	0.1240
20	0.250	0.000	221.7	5.011E+00	4.560E-03	5.182E-03	0.1261	0.1433
23	0.300	0.000	213.5	4.396E+00	3.971E-03	4.509E-03	0.1098	0.1247
30	0.350	0.000	229.4	4.457E+00	4.084E-03	4.646E-03	0.1129	0.1285
31	0.400	0.000	220.8	3.960E+00	3.600E-03	4.092E-03	0.0995	0.1131
33	0.450	0.000	223.6	3.810E+00	3.473E-03	3.948E-03	0.0960	0.1091
34	0.500	0.000	224.5	4.089E+00	3.730E-03	4.241E-03	0.1031	0.1173
37	0.550	0.000	223.1	3.977E+00	3.624E-03	4.119E-03	0.1002	0.1139
38	0.600	0.000	230.3	4.382E+00	4.019E-03	4.573E-03	0.1111	0.1264
40	0.650	0.000	248.0	5.297E+00	4.938E-03	5.631E-03	0.1365	0.1557
41	0.700	0.000	255.5	6.759E+00	6.345E-03	7.243E-03	0.1754	0.2003
43	0.750	0.000	259.2	7.881E+00	7.425E-03	8.480E-03	0.2053	0.2344
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	245.8	6.693E+00	6.227E-03	7.100E-03	0.1722	0.1963
11	0.150	0.091	246.8	5.946E+00	5.537E-03	6.314E-03	0.1531	0.1746
17	0.192	0.107	267.5	4.727E+00	4.488E-03	5.132E-03	0.1241	0.1419
87	0.300	-0.106	231.6	4.989E+00	4.581E-03	5.213E-03	0.1267	0.1441
88	0.300	0.061	230.8	5.076E+00	4.657E-03	5.300E-03	0.1288	0.1465
89	0.300	0.122	238.5	5.043E+00	4.660E-03	5.308E-03	0.1288	0.1467
24	0.300	0.160	244.3	5.395E+00	5.013E-03	5.714E-03	0.1386	0.1580
25	0.300	0.221	259.9	5.474E+00	5.160E-03	5.894E-03	0.1427	0.1630
90	0.400	-0.107	237.5	4.326E+00	3.993E-03	4.548E-03	0.1104	0.1257
32	0.400	0.107	263.7	7.876E+00	7.452E-03	8.516E-03	0.2060	0.2354
52	0.400	0.250	269.2	4.925E+00	4.684E-03	5.356E-03	0.1295	0.1481
91	0.425	0.061	251.1	6.007E+00	5.617E-03	6.408E-03	0.1553	0.1771
92	0.425	0.178	257.6	5.885E+00	5.535E-03	6.321E-03	0.1530	0.1747
93	0.500	-0.107	228.9	3.800E+00	3.481E-03	3.960E-03	0.0962	0.1095
35	0.500	0.107	268.8	9.734E+00	9.254E-03	1.058E-02	0.2558	0.2926
94	0.500	0.178	273.9	9.538E+00	9.112E-03	1.043E-02	0.2519	0.2883
53	0.500	0.250	289.4	1.107E+01	1.073E-02	1.231E-02	0.2966	0.3402
95	0.600	-0.250	256.3	4.030E+00	3.786E-03	4.323E-03	0.1047	0.1195
39	0.600	0.107	275.6	1.039E+01	9.938E-03	1.138E-02	0.2747	0.3145

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:54:17
DATE RECORDED: 7-JUN-95
TIME RECORDED: 18:45:11
000011000

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
32	S2R 2	E-2&1-2	29-O	7.98	460.7	1320.67	30.00	9.98	39.98	-0.01

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.3	0.048	2.133	3876	4.090E-05	7.906E-08	2.0049E+06	3.773E+06	3.617E-02	0.139

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	282.9	1.042E+01	1.004E-02	1.151E-02	0.2777	0.3181
98	0.660	-0.107	255.7	4.340E+00	4.075E-03	4.652E-03	0.1127	0.1286
96	0.660	0.107	280.6	1.057E+01	1.016E-02	1.164E-02	0.2810	0.3218
97	0.660	0.250	290.0	1.077E+01	1.045E-02	1.199E-02	0.2890	0.3314
60	0.660	0.400	284.0	1.281E+01	1.236E-02	1.416E-02	0.3416	0.3915
65	0.700	0.500	282.6	1.510E+01	1.455E-02	1.667E-02	0.4022	0.4608
99	0.750	0.178	284.9	1.005E+01	9.703E-03	1.112E-02	0.2682	0.3074
100	0.755	0.400	262.4	1.239E+01	1.171E-02	1.338E-02	0.3237	0.3699
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 3.868
PITOT AT CENTER LINE = 4.721

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:54:21
DATE RECORDED: 7-JUN-95
TIME RECORDED: 19:00:39
0000110001

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
33	S2R 4	E-2&I-2	29-O	7.96	321.3	1300.67	30.00	9.98	39.98	0.01

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.1	0.034	1.500	3843.	2.927E-05	7.812E-08	1.4396E+06	2.709E+06	3.026E-02	0.126

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	241.9	8.135E+00	7.683E-03	8.759E-03	0.2539	0.2895
6	0.060	0.000	226.3	6.747E+00	6.280E-03	7.145E-03	0.2075	0.2361
7	0.080	0.000	218.3	6.354E+00	5.870E-03	6.672E-03	0.1940	0.2205
8	0.100	0.000	212.2	5.305E+00	4.874E-03	5.536E-03	0.1611	0.1829
10	0.150	0.000	211.9	4.327E+00	3.974E-03	4.514E-03	0.1313	0.1492
16	0.192	0.000	198.2	3.541E+00	3.212E-03	3.642E-03	0.1062	0.1204
20	0.250	0.000	196.2	3.693E+00	3.344E-03	3.790E-03	0.1105	0.1253
23	0.300	0.000	192.7	3.614E+00	3.262E-03	3.696E-03	0.1078	0.1222
30	0.350	0.000	202.6	3.123E+00	2.844E-03	3.226E-03	0.0940	0.1066
31	0.400	0.000	196.7	3.454E+00	3.128E-03	3.546E-03	0.1034	0.1172
33	0.450	0.000	197.9	3.232E+00	2.931E-03	3.323E-03	0.0969	0.1098
34	0.500	0.000	197.7	3.301E+00	2.992E-03	3.392E-03	0.0989	0.1121
37	0.550	0.000	196.6	3.225E+00	2.921E-03	3.311E-03	0.0965	0.1094
38	0.600	0.000	203.1	3.314E+00	3.019E-03	3.425E-03	0.0998	0.1132
40	0.650	0.000	215.9	3.438E+00	3.169E-03	3.601E-03	0.1047	0.1190
41	0.700	0.000	216.0	3.325E+00	3.066E-03	3.483E-03	0.1013	0.1151
43	0.750	0.000	213.2	3.083E+00	2.835E-03	3.220E-03	0.0937	0.1064
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	223.3	5.847E+00	5.427E-03	6.172E-03	0.1794	0.2040
11	0.150	0.091	216.9	4.997E+00	4.611E-03	5.240E-03	0.1524	0.1732
17	0.192	0.107	233.7	4.208E+00	3.944E-03	4.492E-03	0.1304	0.1484
87	0.300	-0.106	202.2	4.274E+00	3.891E-03	4.413E-03	0.1286	0.1459
88	0.300	0.061	202.7	3.507E+00	3.194E-03	3.623E-03	0.1056	0.1198
89	0.300	0.122	215.3	4.300E+00	3.962E-03	4.501E-03	0.1309	0.1488
24	0.300	0.160	216.8	4.480E+00	4.133E-03	4.697E-03	0.1366	0.1552
25	0.300	0.221	226.9	4.499E+00	4.190E-03	4.767E-03	0.1385	0.1576
90	0.400	-0.107	208.9	3.670E+00	3.361E-03	3.816E-03	0.1111	0.1261
32	0.400	0.107	209.3	3.498E+00	3.205E-03	3.639E-03	0.1059	0.1203
52	0.400	0.250	236.4	4.229E+00	3.973E-03	4.527E-03	0.1313	0.1496
91	0.425	0.061	209.1	3.490E+00	3.197E-03	3.630E-03	0.1057	0.1200
92	0.425	0.178	220.4	4.186E+00	3.875E-03	4.406E-03	0.1281	0.1456
93	0.500	-0.107	201.2	3.155E+00	2.869E-03	3.254E-03	0.0948	0.1076
35	0.500	0.107	199.4	3.059E+00	2.778E-03	3.150E-03	0.0918	0.1041
94	0.500	0.178	208.7	3.749E+00	3.434E-03	3.898E-03	0.1135	0.1288
53	0.500	0.250	246.1	7.879E+00	7.471E-03	8.522E-03	0.2469	0.2816
95	0.600	-0.250	217.7	3.445E+00	3.181E-03	3.615E-03	0.1051	0.1195
39	0.600	0.107	215.2	3.339E+00	3.076E-03	3.495E-03	0.1017	0.1155

RUN 33

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:54:21
DATE RECORDED: 7-JUN-95
TIME RECORDED: 19:00:39
000011002

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
33	S2R 4	E-2&1-2	29-O	7.96	321.3	1300.67	30.00	9.98	39.98	0.01

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.1	0.034	1.500	3843.	2.927E-05	7.812E-08	1.4396E+06	2.709E+06	3.026E-02	0.126

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	222.5	3.464E+00	3.213E-03	3.654E-03	0.1062	0.1208
98	0.660	-0.107	224.6	3.370E+00	3.132E-03	3.562E-03	0.1035	0.1177
96	0.660	0.107	227.1	3.814E+00	3.552E-03	4.042E-03	0.1174	0.1336
97	0.660	0.250	235.9	3.306E+00	3.105E-03	3.537E-03	0.1026	0.1169
60	0.660	0.400	251.5	1.015E+01	9.674E-03	1.104E-02	0.3197	0.3650
65	0.700	0.500	249.2	1.197E+01	1.138E-02	1.299E-02	0.3761	0.4292
99	0.750	0.178	232.5	2.885E+00	2.701E-03	3.075E-03	0.0893	0.1016
100	0.755	0.400	234.9	1.001E+01	9.396E-03	1.070E-02	0.3105	0.3537
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 2.734
PITOT AT CENTER LINE = 3.204

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 12:54:26
DATE RECORDED: 7-JUN-95
TIME RECORDED: 19:22:47
00001100

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
34	S2R 6	E-2&1-2	29-O	7.93	208.4	1246.67	30.00	9.98	39.98	0.00

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.3	0.022	0.985	3756.	2.011E-05	7.505E-08	1.0066E+06	1.894E+06	2.434E-02	0.127

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	228.5	6.791E+00	6.670E-03	7.600E-03	0.2740	0.3122
6	0.060	0.000	216.3	5.766E+00	5.596E-03	6.366E-03	0.2299	0.2615
7	0.080	0.000	201.3	4.661E+00	4.458E-03	5.062E-03	0.1832	0.2080
8	0.100	0.000	205.5	4.859E+00	4.666E-03	5.301E-03	0.1917	0.2178
10	0.150	0.000	201.7	3.688E+00	3.530E-03	4.008E-03	0.1450	0.1646
16	0.192	0.000	189.4	3.163E+00	2.991E-03	3.391E-03	0.1229	0.1393
20	0.250	0.000	188.1	3.200E+00	3.023E-03	3.426E-03	0.1242	0.1408
23	0.300	0.000	181.5	2.952E+00	2.771E-03	3.138E-03	0.1138	0.1289
30	0.350	0.000	193.7	3.262E+00	3.098E-03	3.514E-03	0.1273	0.1444
31	0.400	0.000	189.6	3.478E+00	3.290E-03	3.730E-03	0.1352	0.1533
33	0.450	0.000	192.1	3.583E+00	3.398E-03	3.854E-03	0.1396	0.1583
34	0.500	0.000	195.6	3.977E+00	3.784E-03	4.293E-03	0.1554	0.1764
37	0.550	0.000	196.6	4.253E+00	4.050E-03	4.595E-03	0.1664	0.1888
38	0.600	0.000	201.4	4.808E+00	4.600E-03	5.223E-03	0.1890	0.2146
40	0.650	0.000	210.7	5.139E+00	4.960E-03	5.639E-03	0.2038	0.2317
41	0.700	0.000	209.4	5.372E+00	5.179E-03	5.886E-03	0.2128	0.2418
43	0.750	0.000	209.1	5.235E+00	5.046E-03	5.735E-03	0.2073	0.2356
46	0.850	0.000	*****	********	********	********	*******	*******
49	0.950	0.000	*****	********	********	********	*******	*******
86	0.125	0.055	205.6	4.148E+00	3.984E-03	4.526E-03	0.1637	0.1859
11	0.150	0.091	200.9	3.827E+00	3.659E-03	4.155E-03	0.1503	0.1707
17	0.192	0.107	224.6	4.226E+00	4.135E-03	4.709E-03	0.1699	0.1935
87	0.300	-0.106	207.4	5.623E+00	5.411E-03	6.148E-03	0.2223	0.2526
88	0.300	0.061	206.1	4.652E+00	4.470E-03	5.079E-03	0.1836	0.2086
89	0.300	0.122	213.8	4.917E+00	4.761E-03	5.415E-03	0.1956	0.2225
24	0.300	0.160	214.1	4.862E+00	4.708E-03	5.355E-03	0.1934	0.2200
25	0.300	0.221	214.7	4.075E+00	3.948E-03	4.491E-03	0.1622	0.1845
90	0.400	-0.107	212.7	5.405E+00	5.228E-03	5.944E-03	0.2148	0.2442
32	0.400	0.107	213.7	5.556E+00	5.379E-03	6.117E-03	0.2210	0.2513
52	0.400	0.250	227.9	4.525E+00	4.442E-03	5.061E-03	0.1825	0.2079
91	0.425	0.061	210.8	5.067E+00	4.891E-03	5.561E-03	0.2009	0.2284
92	0.425	0.178	220.6	5.673E+00	5.528E-03	6.293E-03	0.2271	0.2585
93	0.500	-0.107	207.5	5.196E+00	5.000E-03	5.682E-03	0.2054	0.2334
35	0.500	0.107	207.0	5.523E+00	5.313E-03	6.036E-03	0.2183	0.2480
94	0.500	0.178	214.8	5.961E+00	5.777E-03	6.571E-03	0.2373	0.2699
53	0.500	0.250	219.6	5.630E+00	5.482E-03	6.239E-03	0.2252	0.2563
95	0.600	-0.250	216.7	5.644E+00	5.480E-03	6.234E-03	0.2251	0.2561
39	0.600	0.107	215.2	5.669E+00	5.496E-03	6.252E-03	0.2258	0.2568

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 12:54 26
DATE RECORDED: 7-JUN 95
TIME RECORDED: 19:22 47
000011004

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
34	S2R 6	E-2&I-2	29-O	7.93	208.4	1246.67	30.00	9.98	39.98	0.00

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.3	0.022	0.985	3756.	2.011E-05	7.505E-08	1.0066E+06	1.894E+06	2.434E-02	0.127

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	219.7	5.741E+00	5.591E-03	6.363E-03	0.2297	0.2614
98	0.660	-0.107	217.6	5.560E+00	5.403E-03	6.148E-03	0.2220	0.2526
96	0.660	0.107	219.2	5.904E+00	5.746E-03	6.540E-03	0.2361	0.2687
97	0.660	0.250	228.0	5.676E+00	5.572E-03	6.349E-03	0.2289	0.2608
60	0.660	0.400	222.0	7.272E+00	7.097E-03	8.080E-03	0.2916	0.3319
65	0.700	0.500	221.2	8.506E+00	8.295E-03	9.443E-03	0.3408	0.3879
99	0.750	0.178	224.2	5.455E+00	5.335E-03	6.075E-03	0.2192	0.2496
100	0.755	0.400	210.0	6.888E+00	6.644E-03	7.552E-03	0.2730	0.3103
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 1.805
PITOT AT CENTER LINE = 1.912

RUN 34

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:54:31
DATE RECORDED: 7-JUN-95
TIME RECORDED: 19:27:47
00001100S

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
35	S2R10	E-2&I-2	29-O	7.93	206.7	1243.67	30.00	9.98	39.98	0.01

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.0	0.022	0.977	3751.	2.001E-05	7.486E-08	1.0024E+06	1.886E+06	2.423E-02	0.117

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	220.8	6.617E+00	6.470E-03	7.365E-03	0.2670	0.3039
6	0.060	0.000	204.5	5.127E+00	4.934E-03	5.605E-03	0.2036	0.2313
7	0.080	0.000	196.5	5.061E+00	4.833E-03	5.484E-03	0.1994	0.2263
8	0.100	0.000	192.6	4.396E+00	4.183E-03	4.744E-03	0.1726	0.1958
10	0.150	0.000	191.3	3.576E+00	3.398E-03	3.853E-03	0.1402	0.1590
16	0.192	0.000	177.5	3.063E+00	2.873E-03	3.252E-03	0.1185	0.1342
20	0.250	0.000	177.0	3.149E+00	2.952E-03	3.342E-03	0.1218	0.1379
23	0.300	0.000	169.8	2.915E+00	2.715E-03	3.070E-03	0.1120	0.1267
30	0.350	0.000	181.6	2.633E+00	2.480E-03	2.808E-03	0.1023	0.1159
31	0.400	0.000	171.2	2.908E+00	2.712E-03	3.068E-03	0.1119	0.1266
33	0.450	0.000	171.6	2.686E+00	2.505E-03	2.834E-03	0.1034	0.1169
34	0.500	0.000	173.4	2.737E+00	2.557E-03	2.894E-03	0.1055	0.1194
37	0.550	0.000	172.7	2.739E+00	2.557E-03	2.893E-03	0.1055	0.1194
38	0.600	0.000	180.5	2.837E+00	2.668E-03	3.021E-03	0.1101	0.1247
40	0.650	0.000	192.1	2.817E+00	2.679E-03	3.038E-03	0.1105	0.1254
41	0.700	0.000	189.4	2.635E+00	2.499E-03	2.834E-03	0.1031	0.1169
43	0.750	0.000	190.3	2.870E+00	2.725E-03	3.090E-03	0.1124	0.1275
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	199.7	4.525E+00	4.334E-03	4.920E-03	0.1788	0.2030
11	0.150	0.091	189.7	3.780E+00	3.587E-03	4.067E-03	0.1480	0.1678
17	0.192	0.107	203.4	3.327E+00	3.198E-03	3.632E-03	0.1320	0.1499
87	0.300	-0.106	180.2	3.688E+00	3.468E-03	3.927E-03	0.1431	0.1620
88	0.300	0.061	181.0	2.920E+00	2.748E-03	3.112E-03	0.1134	0.1284
89	0.300	0.122	190.3	3.530E+00	3.351E-03	3.800E-03	0.1383	0.1568
24	0.300	0.160	189.5	3.628E+00	3.442E-03	3.902E-03	0.1420	0.1610
25	0.300	0.221	196.0	3.622E+00	3.457E-03	3.923E-03	0.1427	0.1619
90	0.400	-0.107	181.0	2.912E+00	2.740E-03	3.103E-03	0.1131	0.1280
32	0.400	0.107	180.6	2.919E+00	2.746E-03	3.110E-03	0.1133	0.1283
52	0.400	0.250	204.5	3.348E+00	3.222E-03	3.660E-03	0.1329	0.1510
91	0.425	0.061	181.0	2.979E+00	2.803E-03	3.174E-03	0.1157	0.1310
92	0.425	0.178	190.3	3.421E+00	3.248E-03	3.682E-03	0.1340	0.1519
93	0.500	-0.107	176.8	2.681E+00	2.513E-03	2.845E-03	0.1037	0.1174
35	0.500	0.107	172.8	2.608E+00	2.435E-03	2.755E-03	0.1005	0.1137
94	0.500	0.178	182.0	3.029E+00	2.853E-03	3.232E-03	0.1177	0.1334
53	0.500	0.250	194.9	3.482E+00	3.320E-03	3.766E-03	0.1370	0.1554
95	0.600	-0.250	196.4	2.891E+00	2.761E-03	3.133E-03	0.1139	0.1293
39	0.600	0.107	189.7	2.779E+00	2.636E-03	2.989E-03	0.1088	0.1233

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:54:31
DATE RECORDED: 7-JUN-95
TIME RECORDED: 19:27:47
00001100

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
35	S2R10	E-2&1-2	29-O	7.93	206.7	1243.67	30.00	9.98	39.98	0.01

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.0	0.022	0.977	3751.	2.001E-05	7.486E-08	1.0024E+06	1.886E+06	2.423E-02	0.117

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	197.7	2.919E+00	2.791E-03	3.167E-03	0.1152	0.1307
98	0.660	-0.107	199.3	2.853E+00	2.732E-03	3.101E-03	0.1127	0.1280
96	0.660	0.107	198.9	3.277E+00	3.136E-03	3.560E-03	0.1294	0.1469
97	0.660	0.250	208.5	2.664E+00	2.574E-03	2.925E-03	0.1062	0.1207
60	0.660	0.400	201.6	4.095E+00	3.930E-03	4.463E-03	0.1622	0.1841
65	0.700	0.500	196.3	4.754E+00	4.539E-03	5.151E-03	0.1873	0.2125
99	0.750	0.178	203.6	2.225E+00	2.139E-03	2.430E-03	0.0883	0.1003
100	0.755	0.400	188.2	2.961E+00	2.806E-03	3.180E-03	0.1158	0.1312
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 1.791
PITOT AT CENTER LINE = 1.797

RUN 35

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:54:39
DATE RECORDED: 7-JUN-95
TIME RECORDED: 20:07:15
00001100?

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
36	S3R 1	A-3	.29-0	7.99	576.3	1320.67	30.00	9.98	39.98	-0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.0	0.059	2.656	3877.	5.089E-05	7.885E-08	2.5022E+06	4.708E+06	4.037E-02	0.375

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	563.9	1.034E+01	1.367E-02	1.655E-02	0.3385	0.4101
6	0.060	0.000	557.0	8.450E+00	1.107E-02	1.338E-02	0.2741	0.3314
7	0.080	0.000	550.4	7.641E+00	9.919E-03	1.197E-02	0.2457	0.2966
8	0.100	0.000	546.0	7.338E+00	9.472E-03	1.142E-02	0.2347	0.2829
10	0.150	0.000	539.1	6.919E+00	8.853E-03	1.065E-02	0.2193	0.2639
16	0.192	0.000	536.6	7.731E+00	9.859E-03	1.186E-02	0.2443	0.2937
20	0.250	0.000	543.2	9.456E+00	1.216E-02	1.465E-02	0.3013	0.3630
23	0.300	0.000	538.2	9.033E+00	1.154E-02	1.389E-02	0.2860	0.3441
30	0.350	0.000	538.0	9.262E+00	1.183E-02	1.424E-02	0.2932	0.3527
31	0.400	0.000	535.2	9.483E+00	1.207E-02	1.451E-02	0.2991	0.3596
33	0.450	0.000	537.7	9.752E+00	1.245E-02	1.498E-02	0.3086	0.3712
34	0.500	0.000	536.8	1.013E+01	1.292E-02	1.554E-02	0.3202	0.3850
37	0.550	0.000	536.5	9.239E+00	1.178E-02	1.417E-02	0.2919	0.3510
38	0.600	0.000	540.2	9.478E+00	1.214E-02	1.462E-02	0.3009	0.3621
40	0.650	0.000	544.1	9.554E+00	1.230E-02	1.482E-02	0.3048	0.3673
41	0.700	0.000	543.9	9.436E+00	1.215E-02	1.464E-02	0.3009	0.3626
43	0.750	0.000	538.9	8.912E+00	1.140E-02	1.372E-02	0.2824	0.3399
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	536.7	5.754E+00	7.340E-03	8.827E-03	0.1818	0.2187
11	0.150	0.091	527.4	5.306E+00	6.690E-03	8.026E-03	0.1657	0.1988
17	0.192	0.107	522.5	4.826E+00	6.047E-03	7.246E-03	0.1498	0.1795
87	0.300	-0.106	528.8	7.521E+00	9.498E-03	1.140E-02	0.2353	0.2824
88	0.300	0.061	538.8	8.949E+00	1.145E-02	1.377E-02	0.2836	0.3412
89	0.300	0.122	527.9	7.000E+00	8.829E-03	1.059E-02	0.2187	0.2625
24	0.300	0.160	517.2	5.025E+00	6.254E-03	7.484E-03	0.1549	0.1854
25	0.300	0.221	514.8	4.903E+00	6.084E-03	7.277E-03	0.1507	0.1803
90	0.400	-0.107	533.9	9.819E+00	1.248E-02	1.500E-02	0.3092	0.3716
32	0.400	0.107	536.3	9.809E+00	1.251E-02	1.504E-02	0.3098	0.3725
52	0.400	0.250	517.0	6.185E+00	7.697E-03	9.210E-03	0.1907	0.2282
91	0.425	0.061	536.2	9.424E+00	1.201E-02	1.444E-02	0.2976	0.3578
92	0.425	0.178	537.0	1.046E+01	1.335E-02	1.605E-02	0.3307	0.3977
93	0.500	-0.107	533.9	9.327E+00	1.185E-02	1.424E-02	0.2937	0.3529
35	0.500	0.107	534.8	9.438E+00	1.201E-02	1.444E-02	0.2975	0.3576
94	0.500	0.178	537.7	1.009E+01	1.288E-02	1.550E-02	0.3192	0.3839
53	0.500	0.250	538.2	1.024E+01	1.309E-02	1.575E-02	0.3243	0.3902
95	0.600	-0.250	539.2	9.779E+00	1.251E-02	1.506E-02	0.3100	0.3730
39	0.600	0.107	542.4	9.600E+00	1.234E-02	1.486E-02	0.3056	0.3680

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 12:54 39
DATE RECORDED: 7-JUN 95
TIME RECORDED: 20:07 15
00001100R

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
36	S3R 1	A-3	29-0	7.99	576.3	1320.67	30.00	9.98	39.98	-0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.0	0.059	2.656	3877.	5.089E-05	7.885E-08	2.5022E+06	4.708E+06	4.037E-02	0.375

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	543.8	9.910E+00	1.276E-02	1.537E-02	0.3161	0.3808
98	0.660	-0.107	544.5	9.357E+00	1.206E-02	1.453E-02	0.2987	0.3599
96	0.660	0.107	547.3	9.434E+00	1.220E-02	1.471E-02	0.3022	0.3644
97	0.660	0.250	549.4	9.863E+00	1.279E-02	1.543E-02	0.3168	0.3823
60	0.660	0.400	558.6	1.177E+01	1.544E-02	1.868E-02	0.3826	0.4627
65	0.700	0.500	572.9	1.416E+01	1.893E-02	2.300E-02	0.4691	0.5697
99	0.750	0.178	545.6	9.104E+00	1.175E-02	1.416E-02	0.2910	0.3508
100	0.755	0.400	563.6	1.118E+01	1.477E-02	1.789E-02	0.3660	0.4433
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 4.865
PITOT AT CENTER LINE = 5.227

RUN 36

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:54:45
DATE RECORDED: 7-JUN-95
TIME RECORDED: 20:19:02
000011009

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
37	S3R 3	A-3	29-0	7.98	459.9	1319.67	30.00	9.98	39.98	0.00

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.048	2.129	3874.	4.085E-05	7.900E-08	2.0036E+06	3.770E+06	3.613E-02	0.374

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	556.8	9.019E+00	1.182E-02	1.430E-02	0.3272	0.3956
6	0.060	0.000	548.5	7.314E+00	9.485E-03	1.144E-02	0.2625	0.3167
7	0.080	0.000	543.3	6.913E+00	8.904E-03	1.073E-02	0.2464	0.2969
8	0.100	0.000	540.2	6.502E+00	8.341E-03	1.004E-02	0.2308	0.2779
10	0.150	0.000	531.4	5.424E+00	6.881E-03	8.264E-03	0.1904	0.2287
16	0.192	0.000	524.2	5.322E+00	6.689E-03	8.020E-03	0.1851	0.2220
20	0.250	0.000	530.1	6.815E+00	8.631E-03	1.036E-02	0.2389	0.2868
23	0.300	0.000	527.8	7.215E+00	9.111E-03	1.093E-02	0.2522	0.3026
30	0.350	0.000	531.3	7.596E+00	9.635E-03	1.157E-02	0.2667	0.3203
31	0.400	0.000	529.0	8.088E+00	1.023E-02	1.228E-02	0.2831	0.3398
33	0.450	0.000	534.1	8.576E+00	1.092E-02	1.312E-02	0.3021	0.3631
34	0.500	0.000	535.5	8.180E+00	1.043E-02	1.254E-02	0.2887	0.3471
37	0.550	0.000	536.3	7.883E+00	1.006E-02	1.210E-02	0.2785	0.3349
38	0.600	0.000	541.9	8.103E+00	1.042E-02	1.255E-02	0.2883	0.3472
40	0.650	0.000	547.6	7.847E+00	1.016E-02	1.226E-02	0.2813	0.3393
41	0.700	0.000	549.5	7.615E+00	9.888E-03	1.193E-02	0.2736	0.3302
43	0.750	0.000	548.3	7.401E+00	9.595E-03	1.157E-02	0.2655	0.3203
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	532.4	5.094E+00	6.470E-03	7.773E-03	0.1791	0.2151
11	0.150	0.091	523.6	4.776E+00	5.999E-03	7.192E-03	0.1660	0.1990
17	0.192	0.107	520.8	4.302E+00	5.384E-03	6.450E-03	0.1490	0.1785
87	0.300	-0.106	511.0	4.024E+00	4.976E-03	5.946E-03	0.1377	0.1646
88	0.300	0.061	527.6	6.653E+00	8.400E-03	1.008E-02	0.2325	0.2789
89	0.300	0.122	517.4	4.569E+00	5.694E-03	6.815E-03	0.1576	0.1886
24	0.300	0.160	513.6	4.439E+00	5.507E-03	6.585E-03	0.1524	0.1822
25	0.300	0.221	512.9	4.390E+00	5.442E-03	6.506E-03	0.1506	0.1801
90	0.400	-0.107	518.6	5.338E+00	6.664E-03	7.978E-03	0.1844	0.2208
32	0.400	0.107	528.5	7.767E+00	9.818E-03	1.178E-02	0.2717	0.3261
52	0.400	0.250	513.6	4.087E+00	5.070E-03	6.063E-03	0.1403	0.1678
91	0.425	0.061	531.9	7.989E+00	1.014E-02	1.218E-02	0.2807	0.3371
92	0.425	0.178	530.3	8.015E+00	1.015E-02	1.219E-02	0.2810	0.3374
93	0.500	-0.107	531.6	7.545E+00	9.574E-03	1.150E-02	0.2650	0.3182
35	0.500	0.107	532.1	7.949E+00	1.009E-02	1.213E-02	0.2793	0.3356
94	0.500	0.178	535.5	8.416E+00	1.073E-02	1.290E-02	0.2970	0.3571
53	0.500	0.250	537.0	8.328E+00	1.064E-02	1.280E-02	0.2945	0.3542
95	0.600	-0.250	534.8	6.800E+00	8.664E-03	1.041E-02	0.2398	0.2882
39	0.600	0.107	542.6	8.134E+00	1.047E-02	1.261E-02	0.2897	0.3490

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER 2573
PAGE 2

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 12:54:45
DATE RECORDED: 7-JUN 95
TIME RECORDED: 20:19:02
00001101D

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
37	S3R 3	A-3	29-O	7.98	459.9	1319.67	30.00	9.98	39.98	0.00

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.048	2.129	3874.	4.085E-05	7.900E-08	2.0036E+06	3.770E+06	3.613E-02	0.374

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	543.3	8.578E+00	1.105E-02	1.331E-02	0.3058	0.3684
98	0.660	-0.107	547.0	7.935E+00	1.027E-02	1.239E-02	0.2842	0.3428
96	0.660	0.107	548.4	8.079E+00	1.047E-02	1.264E-02	0.2899	0.3497
97	0.660	0.250	552.3	8.430E+00	1.099E-02	1.327E-02	0.3040	0.3672
60	0.660	0.400	565.3	9.933E+00	1.317E-02	1.596E-02	0.3644	0.4417
65	0.700	0.500	577.9	1.178E+01	1.588E-02	1.932E-02	0.4395	0.5346
99	0.750	0.178	552.1	7.798E+00	1.016E-02	1.227E-02	0.2812	0.3396
100	0.755	0.400	568.2	9.182E+00	1.222E-02	1.482E-02	0.3382	0.4102
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 3.904
PITOT AT CENTER LINE = 4.812

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER 2573
PAGE 1

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 12:54 58
DATE RECORDED: 7-JUN 95
TIME RECORDED: 20:42 12
000011011

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
39	S3R 9	A-3	29-0	7.96	329.0	1287.67	30.00	9.98	39.98	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.0	0.035	1.536	3822.	3.027E-05	7.725E-08	1.4979E+06	2.819E+06	3.056E-02	0.393

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	556.9	7.279E+00	9.961E-03	1.209E-02	0.3259	0.3956
6	0.060	0.000	549.2	5.750E+00	7.786E-03	9.430E-03	0.2548	0.3086
7	0.080	0.000	543.9	5.344E+00	7.184E-03	8.689E-03	0.2351	0.2843
8	0.100	0.000	540.5	4.886E+00	6.540E-03	7.901E-03	0.2140	0.2585
10	0.150	0.000	533.7	3.917E+00	5.195E-03	6.265E-03	0.1700	0.2050
16	0.192	0.000	525.2	3.470E+00	4.552E-03	5.477E-03	0.1489	0.1792
20	0.250	0.000	527.4	3.712E+00	4.882E-03	5.877E-03	0.1597	0.1923
23	0.300	0.000	525.5	4.089E+00	5.365E-03	6.456E-03	0.1756	0.2112
30	0.350	0.000	530.6	4.508E+00	5.954E-03	7.175E-03	0.1948	0.2348
31	0.400	0.000	529.7	5.251E+00	6.927E-03	8.345E-03	0.2267	0.2731
33	0.450	0.000	535.3	5.885E+00	7.822E-03	9.437E-03	0.2559	0.3088
34	0.500	0.000	539.6	5.887E+00	7.869E-03	9.506E-03	0.2575	0.3110
37	0.550	0.000	541.6	5.760E+00	7.721E-03	9.332E-03	0.2527	0.3054
38	0.600	0.000	546.8	5.998E+00	8.096E-03	9.799E-03	0.2649	0.3207
40	0.650	0.000	552.7	5.779E+00	7.864E-03	9.534E-03	0.2573	0.3120
41	0.700	0.000	554.2	5.624E+00	7.668E-03	9.301E-03	0.2509	0.3043
43	0.750	0.000	553.8	5.413E+00	7.376E-03	8.945E-03	0.2413	0.2927
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	536.6	4.144E+00	5.518E-03	6.660E-03	0.1806	0.2179
11	0.150	0.091	528.7	3.782E+00	4.983E-03	6.002E-03	0.1631	0.1964
17	0.192	0.107	527.5	3.454E+00	4.544E-03	5.471E-03	0.1487	0.1790
87	0.300	-0.106	519.2	3.091E+00	4.023E-03	4.833E-03	0.1316	0.1581
88	0.300	0.061	527.3	3.813E+00	5.014E-03	6.037E-03	0.1641	0.1975
89	0.300	0.122	524.4	3.276E+00	4.292E-03	5.163E-03	0.1404	0.1689
24	0.300	0.160	521.1	3.431E+00	4.476E-03	5.379E-03	0.1465	0.1760
25	0.300	0.221	520.9	3.434E+00	4.478E-03	5.382E-03	0.1465	0.1761
90	0.400	-0.107	521.5	2.862E+00	3.735E-03	4.490E-03	0.1222	0.1469
32	0.400	0.107	527.1	4.438E+00	5.835E-03	7.024E-03	0.1909	0.2298
52	0.400	0.250	522.7	3.048E+00	3.985E-03	4.792E-03	0.1304	0.1568
91	0.425	0.061	534.7	5.481E+00	7.279E-03	8.780E-03	0.2382	0.2873
92	0.425	0.178	524.7	3.862E+00	5.062E-03	6.090E-03	0.1657	0.1993
93	0.500	-0.107	530.5	3.879E+00	5.123E-03	6.172E-03	0.1676	0.2020
35	0.500	0.107	535.1	5.536E+00	7.356E-03	8.875E-03	0.2407	0.2904
94	0.500	0.178	534.1	4.997E+00	6.631E-03	7.998E-03	0.2170	0.2617
53	0.500	0.250	532.0	3.962E+00	5.242E-03	6.319E-03	0.1715	0.2068
95	0.600	-0.250	535.3	2.952E+00	3.923E-03	4.733E-03	0.1284	0.1549
39	0.600	0.107	547.6	5.996E+00	8.103E-03	9.810E-03	0.2651	0.3210

RUN 39

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 12:54 58
DATE RECORDED: 7-JUN 95
TIME RECORDED: 20:42 12
00001101

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
39	S3R 9	A-3	29-O	7.96	329.0	1287.67	30.00	9.98	39.98	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.0	0.035	1.536	3822.	3.027E-05	7.725E-08	1.4979E+06	2.819E+06	3.056E-02	0.393

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	544.6	5.405E+00	7.274E-03	8.799E-03	0.2380	0.2879
98	0.660	-0.107	552.5	5.641E+00	7.673E-03	9.303E-03	0.2511	0.3044
96	0.660	0.107	553.3	5.969E+00	8.128E-03	9.857E-03	0.2660	0.3225
97	0.660	0.250	556.8	5.965E+00	8.161E-03	9.906E-03	0.2670	0.3242
60	0.660	0.400	563.3	5.442E+00	7.512E-03	9.137E-03	0.2458	0.2990
65	0.700	0.500	570.0	5.552E+00	7.736E-03	9.427E-03	0.2531	0.3085
99	0.750	0.178	556.9	5.724E+00	7.833E-03	9.508E-03	0.2563	0.3111
100	0.755	0.400	569.8	6.262E+00	8.723E-03	1.063E-02	0.2854	0.3478
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 2.823
PITOT AT CENTER LINE = 3.121

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 12:55 07
DATE RECORDED: 7-JUN 95
TIME RECORDED: 21.13.18
00001101?

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
40	S3R 7	A-3	29-0	7.93	208.0	1237.67	30.00	9.98	39.98	-0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.5	0.022	0.983	3742.	2.022E-05	7.447E-08	1.0161E+06	1.912E+06	2.428E-02	0.414

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	544.5	5.458E+00	7.875E-03	9.587E-03	0.3243	0.3948
6	0.060	0.000	537.2	4.030E+00	5.754E-03	6.989E-03	0.2369	0.2878
7	0.080	0.000	530.7	3.291E+00	4.655E-03	5.643E-03	0.1917	0.2324
8	0.100	0.000	529.8	3.077E+00	4.346E-03	5.267E-03	0.1790	0.2169
10	0.150	0.000	528.0	2.450E+00	3.453E-03	4.182E-03	0.1422	0.1722
16	0.192	0.000	522.9	2.187E+00	3.060E-03	3.701E-03	0.1260	0.1524
20	0.250	0.000	524.8	2.036E+00	2.856E-03	3.456E-03	0.1176	0.1423
23	0.300	0.000	521.5	1.932E+00	2.697E-03	3.261E-03	0.1111	0.1343
30	0.350	0.000	524.6	1.767E+00	2.478E-03	2.998E-03	0.1020	0.1235
31	0.400	0.000	521.0	1.685E+00	2.351E-03	2.842E-03	0.0968	0.1170
33	0.450	0.000	523.8	1.666E+00	2.333E-03	2.823E-03	0.0961	0.1162
34	0.500	0.000	527.5	1.630E+00	2.296E-03	2.780E-03	0.0945	0.1145
37	0.550	0.000	529.7	1.534E+00	2.166E-03	2.625E-03	0.0892	0.1081
38	0.600	0.000	535.4	1.567E+00	2.232E-03	2.709E-03	0.0919	0.1116
40	0.650	0.000	541.5	1.328E+00	1.908E-03	2.321E-03	0.0786	0.0956
41	0.700	0.000	540.5	7.011E-01	1.006E-03	1.223E-03	0.0414	0.0503
43	0.750	0.000	543.0	1.588E+00	2.286E-03	2.782E-03	0.0942	0.1146
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	531.9	3.105E+00	4.400E-03	5.336E-03	0.1812	0.2197
11	0.150	0.091	526.4	2.868E+00	4.032E-03	4.881E-03	0.1660	0.2010
17	0.192	0.107	528.2	2.589E+00	3.649E-03	4.420E-03	0.1503	0.1820
87	0.300	-0.106	522.4	2.302E+00	3.219E-03	3.892E-03	0.1325	0.1603
88	0.300	0.061	525.4	2.077E+00	2.917E-03	3.530E-03	0.1201	0.1454
89	0.300	0.122	526.8	2.441E+00	3.433E-03	4.157E-03	0.1414	0.1712
24	0.300	0.160	523.8	2.472E+00	3.462E-03	4.188E-03	0.1426	0.1725
25	0.300	0.221	524.2	2.630E+00	3.686E-03	4.460E-03	0.1518	0.1836
90	0.400	-0.107	524.8	1.917E+00	2.689E-03	3.253E-03	0.1107	0.1340
32	0.400	0.107	522.6	1.880E+00	2.629E-03	3.179E-03	0.1082	0.1309
52	0.400	0.250	526.8	2.233E+00	3.142E-03	3.804E-03	0.1294	0.1566
91	0.425	0.061	525.6	1.724E+00	2.421E-03	2.931E-03	0.0997	0.1207
92	0.425	0.178	524.3	2.174E+00	3.048E-03	3.687E-03	0.1255	0.1518
93	0.500	-0.107	526.8	1.585E+00	2.230E-03	2.700E-03	0.0918	0.1112
35	0.500	0.107	524.4	1.573E+00	2.205E-03	2.668E-03	0.0908	0.1098
94	0.500	0.178	526.7	1.991E+00	2.800E-03	3.391E-03	0.1153	0.1396
53	0.500	0.250	529.7	2.178E+00	3.077E-03	3.729E-03	0.1267	0.1535
95	0.600	-0.250	534.0	1.702E+00	2.419E-03	2.936E-03	0.0996	0.1209
39	0.600	0.107	536.0	1.546E+00	2.203E-03	2.674E-03	0.0907	0.1101

RUN 40

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 12:55:07
DATE RECORDED: 7-JUN 95
TIME RECORDED: 21:13:19
000011014

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
40	S3R 7	A-3	29-O	7.93	208.0	1237.67	30.00	9.98	39.98	-0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.5	0.022	0.983	3742.	2.022E-05	7.447E-08	1.0161E+06	1.912E+06	2.428E-02	0.414

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	535.0	1.717E+00	2.443E-03	2.966E-03	0.1006	0.1221
98	0.660	-0.107	542.1	1.339E+00	1.925E-03	2.341E-03	0.0793	0.0964
96	0.660	0.107	541.4	1.546E+00	2.221E-03	2.701E-03	0.0915	0.1112
97	0.660	0.250	543.3	1.310E+00	1.887E-03	2.296E-03	0.0777	0.0946
60	0.660	0.400	548.4	2.066E+00	2.997E-03	3.653E-03	0.1234	0.1504
65	0.700	0.500	551.0	2.455E+00	3.576E-03	4.362E-03	0.1472	0.1796
99	0.750	0.178	543.6	1.321E+00	1.903E-03	2.316E-03	0.0784	0.0954
100	0.755	0.400	547.8	1.158E+00	1.679E-03	2.046E-03	0.0691	0.0842
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 1.815
PITOT AT CENTER LINE = 1.824

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:55:13
DATE RECORDED: 7-JUN-95
TIME RECORDED: 21:41:13
00001191

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
41	S3R 2	A-3	29-0	7.98	461.0	1319.67	30.00	9.98	39.98	-0.01

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.048	2.134	3874.	4.095E-05	7.900E-08	2.0084E+06	3.779E+06	3.618E-02	0.133

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	253.2	9.566E+00	8.970E-03	1.024E-02	0.2479	0.2830
6	0.060	0.000	251.8	9.080E+00	8.503E-03	9.702E-03	0.2350	0.2682
7	0.080	0.000	245.2	8.890E+00	8.273E-03	9.432E-03	0.2287	0.2607
8	0.100	0.000	239.3	7.830E+00	7.247E-03	8.256E-03	0.2003	0.2282
10	0.150	0.000	240.0	6.734E+00	6.237E-03	7.106E-03	0.1724	0.1964
16	0.192	0.000	230.5	6.104E+00	5.604E-03	6.377E-03	0.1549	0.1763
20	0.250	0.000	244.6	8.927E+00	8.304E-03	9.466E-03	0.2295	0.2616
23	0.300	0.000	241.0	8.921E+00	8.271E-03	9.424E-03	0.2286	0.2605
30	0.350	0.000	262.1	9.949E+00	9.408E-03	1.075E-02	0.2601	0.2971
31	0.400	0.000	259.3	1.018E+01	9.597E-03	1.096E-02	0.2653	0.3030
33	0.450	0.000	266.0	1.056E+01	1.002E-02	1.145E-02	0.2770	0.3166
34	0.500	0.000	264.4	1.046E+01	9.914E-03	1.133E-02	0.2740	0.3132
37	0.550	0.000	259.0	9.947E+00	9.378E-03	1.071E-02	0.2592	0.2961
38	0.600	0.000	259.4	1.006E+01	9.485E-03	1.083E-02	0.2622	0.2995
40	0.650	0.000	267.8	1.043E+01	9.915E-03	1.134E-02	0.2741	0.3134
41	0.700	0.000	262.4	1.032E+01	9.756E-03	1.115E-02	0.2697	0.3081
43	0.750	0.000	261.0	1.008E+01	9.519E-03	1.087E-02	0.2631	0.3006
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	238.7	6.768E+00	6.261E-03	7.132E-03	0.1731	0.1971
11	0.150	0.091	238.0	5.779E+00	5.342E-03	6.085E-03	0.1477	0.1682
17	0.192	0.107	263.1	4.834E+00	4.575E-03	5.228E-03	0.1265	0.1445
87	0.300	-0.106	224.9	5.219E+00	4.767E-03	5.420E-03	0.1318	0.1498
88	0.300	0.061	244.0	8.396E+00	7.806E-03	8.898E-03	0.2158	0.2460
89	0.300	0.122	234.6	5.857E+00	5.398E-03	6.145E-03	0.1492	0.1699
24	0.300	0.160	239.1	5.733E+00	5.306E-03	6.044E-03	0.1467	0.1671
25	0.300	0.221	255.2	5.611E+00	5.271E-03	6.017E-03	0.1457	0.1663
90	0.400	-0.107	245.7	6.097E+00	5.677E-03	6.472E-03	0.1569	0.1789
32	0.400	0.107	274.1	9.749E+00	9.324E-03	1.067E-02	0.2577	0.2950
52	0.400	0.250	273.1	5.702E+00	5.448E-03	6.234E-03	0.1506	0.1723
91	0.425	0.061	273.6	9.730E+00	9.301E-03	1.064E-02	0.2571	0.2942
92	0.425	0.178	278.0	8.877E+00	8.521E-03	9.757E-03	0.2355	0.2697
93	0.500	-0.107	263.3	9.016E+00	8.535E-03	9.753E-03	0.2359	0.2696
35	0.500	0.107	275.7	9.912E+00	9.495E-03	1.087E-02	0.2625	0.3004
94	0.500	0.178	288.9	1.055E+01	1.023E-02	1.174E-02	0.2829	0.3244
53	0.500	0.250	298.9	9.950E+00	9.747E-03	1.119E-02	0.2694	0.3094
95	0.600	-0.250	296.3	7.134E+00	6.971E-03	8.003E-03	0.1927	0.2212
39	0.600	0.107	284.0	1.040E+01	1.004E-02	1.150E-02	0.2775	0.3180

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:55:13
DATE RECORDED: 7-JUN-95
TIME RECORDED: 21:41:33
000011016

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
41	S3R 2	A-3	29-0	7.98	461.0	1319.67	30.00	9.98	39.98	-0.01

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.048	2.134	3874.	4.095E-05	7.900E-08	2.0084E+06	3.779E+06	3.618E-02	0.133

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	311.9	1.058E+01	1.049E-02	1.208E-02	0.2901	0.3338
98	0.660	-0.107	285.3	1.037E+01	1.002E-02	1.149E-02	0.2771	0.3176
96	0.660	0.107	281.0	1.051E+01	1.012E-02	1.159E-02	0.2797	0.3204
97	0.660	0.250	302.5	1.072E+01	1.054E-02	1.211E-02	0.2914	0.3348
60	0.660	0.400	301.7	1.269E+01	1.246E-02	1.432E-02	0.3445	0.3959
65	0.700	0.500	290.8	1.510E+01	1.467E-02	1.683E-02	0.4056	0.4653
99	0.750	0.178	282.5	1.011E+01	9.745E-03	1.117E-02	0.2694	0.3087
100	0.755	0.400	262.3	1.285E+01	1.215E-02	1.388E-02	0.3358	0.3837
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 3.922
PITOT AT CENTER LINE = 4.251

RUN 41

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 12:55:46
DATE RECORDED: 7-JUN 95
TIME RECORDED: 22:05:29
00001101?

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
42	S3R10	A-3	29-O	7.98	461.1	1320.67	30.00	9.98	39.98	0.01

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.3	0.048	2.135	3876.	4.093E-05	7.906E-08	2.0063E+06	3.775E+06	3.618E-02	0.116

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	242.0	1.004E+01	9.305E-03	1.060E-02	0.2572	0.2930
6	0.060	0.000	231.8	8.968E+00	8.236E-03	9.373E-03	0.2276	0.2590
7	0.080	0.000	230.2	9.249E+00	8.482E-03	9.651E-03	0.2344	0.2667
8	0.100	0.000	225.3	8.249E+00	7.531E-03	8.563E-03	0.2081	0.2367
10	0.150	0.000	225.0	7.274E+00	6.639E-03	7.549E-03	0.1835	0.2086
16	0.192	0.000	213.5	6.695E+00	6.047E-03	6.866E-03	0.1671	0.1898
20	0.250	0.000	222.7	8.526E+00	7.765E-03	8.827E-03	0.2146	0.2439
23	0.300	0.000	229.3	9.538E+00	8.740E-03	9.943E-03	0.2415	0.2748
30	0.350	0.000	245.3	1.039E+01	9.657E-03	1.101E-02	0.2669	0.3043
31	0.400	0.000	242.9	1.070E+01	9.928E-03	1.131E-02	0.2744	0.3127
33	0.450	0.000	244.5	1.050E+01	9.758E-03	1.112E-02	0.2697	0.3074
34	0.500	0.000	244.0	1.069E+01	9.933E-03	1.132E-02	0.2745	0.3129
37	0.550	0.000	239.5	1.059E+01	9.794E-03	1.116E-02	0.2707	0.3083
38	0.600	0.000	241.5	1.079E+01	9.994E-03	1.139E-02	0.2762	0.3147
40	0.650	0.000	248.5	1.067E+01	9.949E-03	1.135E-02	0.2750	0.3136
41	0.700	0.000	246.1	1.058E+01	9.845E-03	1.122E-02	0.2721	0.3102
43	0.750	0.000	245.9	1.023E+01	9.517E-03	1.085E-02	0.2630	0.2999
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	221.5	7.269E+00	6.613E-03	7.516E-03	0.1828	0.2077
11	0.150	0.091	213.0	6.009E+00	5.425E-03	6.159E-03	0.1499	0.1702
17	0.192	0.107	234.9	5.051E+00	4.652E-03	5.296E-03	0.1286	0.1464
87	0.300	-0.106	206.6	5.800E+00	5.206E-03	5.907E-03	0.1439	0.1632
88	0.300	0.061	230.1	8.686E+00	7.965E-03	9.063E-03	0.2201	0.2505
89	0.300	0.122	224.0	6.824E+00	6.222E-03	7.074E-03	0.1720	0.1955
24	0.300	0.160	219.5	5.978E+00	5.429E-03	6.169E-03	0.1500	0.1705
25	0.300	0.221	231.5	5.649E+00	5.187E-03	5.903E-03	0.1433	0.1631
90	0.400	-0.107	223.0	6.176E+00	5.627E-03	6.396E-03	0.1555	0.1768
32	0.400	0.107	255.5	1.028E+01	9.651E-03	1.102E-02	0.2667	0.3045
52	0.400	0.250	249.7	5.975E+00	5.579E-03	6.364E-03	0.1542	0.1759
91	0.425	0.061	253.8	1.000E+01	9.375E-03	1.070E-02	0.2591	0.2957
92	0.425	0.178	261.5	9.758E+00	9.212E-03	1.052E-02	0.2546	0.2909
93	0.500	-0.107	240.4	9.253E+00	8.565E-03	9.758E-03	0.2367	0.2697
35	0.500	0.107	249.7	9.812E+00	9.161E-03	1.045E-02	0.2532	0.2888
94	0.500	0.178	261.0	1.030E+01	9.725E-03	1.111E-02	0.2688	0.3070
53	0.500	0.250	271.5	1.037E+01	9.886E-03	1.131E-02	0.2732	0.3125
95	0.600	-0.250	251.2	8.117E+00	7.589E-03	8.658E-03	0.2097	0.2393
39	0.600	0.107	260.8	1.066E+01	1.006E-02	1.149E-02	0.2780	0.3176

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:55:47
DATE RECORDED: 7-JUN-95
TIME RECORDED: 22:05:29
0000111018

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
42	S3R10	A-3	29-0	7.98	461.1	1320.67	30.00	9.98	39.98	0.01

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.3	0.048	2.135	3876.	4.093E-05	7.906E-08	2.0063E+06	3.775E+06	3.618E-02	0.116

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	284.7	1.088E+01	1.051E-02	1.204E-02	0.2904	0.3328
98	0.660	-0.107	258.9	1.061E+01	9.992E-03	1.141E-02	0.2761	0.3154
96	0.660	0.107	261.2	1.087E+01	1.026E-02	1.172E-02	0.2836	0.3240
97	0.660	0.250	284.1	1.088E+01	1.050E-02	1.203E-02	0.2901	0.3325
60	0.660	0.400	294.3	1.287E+01	1.253E-02	1.439E-02	0.3464	0.3976
65	0.700	0.500	287.4	1.554E+01	1.504E-02	1.725E-02	0.4158	0.4767
99	0.750	0.178	269.3	1.025E+01	9.745E-03	1.115E-02	0.2693	0.3080
100	0.755	0.400	252.8	1.291E+01	1.209E-02	1.380E-02	0.3342	0.3813
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 3.927
PITOT AT CENTER LINE = 4.721

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:55:51
DATE RECORDED: 7-JUN-95
TIME RECORDED: 22:20:37
000011019

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
43	S3R 4	A-3	29-O	7.96	353.0	1291.67	30.00	9.98	39.98	0.00

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (I=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.2	0.037	1.645	3829.	3.231E-05	7.744E-08	1.5978E+06	3.006E+06	3.165E-02	0.293

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	428.7	8.013E+00	9.285E-03	1.092E-02	0.2934	0.3450
6	0.060	0.000	420.8	6.630E+00	7.613E-03	8.939E-03	0.2406	0.2825
7	0.080	0.000	416.9	5.752E+00	6.575E-03	7.714E-03	0.2078	0.2438
8	0.100	0.000	416.6	5.264E+00	6.016E-03	7.057E-03	0.1901	0.2230
10	0.150	0.000	409.5	4.128E+00	4.679E-03	5.482E-03	0.1479	0.1732
16	0.192	0.000	400.9	3.627E+00	4.072E-03	4.762E-03	0.1287	0.1505
20	0.250	0.000	402.2	3.867E+00	4.347E-03	5.086E-03	0.1374	0.1607
23	0.300	0.000	400.9	4.050E+00	4.547E-03	5.318E-03	0.1437	0.1681
30	0.350	0.000	406.2	4.830E+00	5.455E-03	6.386E-03	0.1724	0.2018
31	0.400	0.000	403.8	4.901E+00	5.520E-03	6.460E-03	0.1744	0.2041
33	0.450	0.000	406.6	5.730E+00	6.474E-03	7.580E-03	0.2046	0.2395
34	0.500	0.000	404.3	6.118E+00	6.895E-03	8.070E-03	0.2179	0.2550
37	0.550	0.000	399.4	6.170E+00	6.914E-03	8.085E-03	0.2185	0.2555
38	0.600	0.000	404.6	6.600E+00	7.441E-03	8.709E-03	0.2351	0.2752
40	0.650	0.000	409.2	6.541E+00	7.412E-03	8.682E-03	0.2342	0.2744
41	0.700	0.000	409.6	6.426E+00	7.285E-03	8.535E-03	0.2302	0.2697
43	0.750	0.000	410.4	6.216E+00	7.053E-03	8.264E-03	0.2229	0.2612
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	416.1	4.537E+00	5.182E-03	6.079E-03	0.1638	0.1921
11	0.150	0.091	410.7	4.085E+00	4.637E-03	5.434E-03	0.1465	0.1717
17	0.192	0.107	408.0	3.584E+00	4.055E-03	4.750E-03	0.1282	0.1501
87	0.300	-0.106	395.8	3.476E+00	3.880E-03	4.534E-03	0.1226	0.1433
88	0.300	0.061	404.4	3.875E+00	4.367E-03	5.111E-03	0.1380	0.1615
89	0.300	0.122	407.4	3.733E+00	4.221E-03	4.943E-03	0.1334	0.1562
24	0.300	0.160	408.0	3.789E+00	4.288E-03	5.022E-03	0.1355	0.1587
25	0.300	0.221	410.1	3.700E+00	4.197E-03	4.918E-03	0.1326	0.1554
90	0.400	-0.107	393.4	2.864E+00	3.188E-03	3.724E-03	0.1008	0.1177
32	0.400	0.107	401.5	4.263E+00	4.789E-03	5.601E-03	0.1513	0.1770
52	0.400	0.250	400.6	3.284E+00	3.686E-03	4.311E-03	0.1165	0.1362
91	0.425	0.061	407.2	5.244E+00	5.929E-03	6.943E-03	0.1873	0.2194
92	0.425	0.178	397.9	3.685E+00	4.122E-03	4.819E-03	0.1303	0.1523
93	0.500	-0.107	389.0	3.597E+00	3.985E-03	4.650E-03	0.1259	0.1470
35	0.500	0.107	398.5	5.464E+00	6.117E-03	7.151E-03	0.1933	0.2260
94	0.500	0.178	397.6	4.953E+00	5.540E-03	6.476E-03	0.1751	0.2046
53	0.500	0.250	395.7	3.823E+00	4.267E-03	4.985E-03	0.1348	0.1575
95	0.600	-0.250	389.8	3.043E+00	3.374E-03	3.939E-03	0.1066	0.1245
39	0.600	0.107	406.8	6.614E+00	7.474E-03	8.752E-03	0.2362	0.2765

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:55:51
DATE RECORDED: 7-JUN-95
TIME RECORDED: 22:20:37
0000110:0

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
43	S3R 4	A-3	29-0	7.96	353.0	1291.67	30.00	9.98	39.98	0.00

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.2	0.037	1.645	3829.	3.231E-05	7.744E-08	1.5978E+06	3.006E+06	3.165E-02	0.293

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	405.0	5.419E+00	6.112E-03	7.154E-03	0.1931	0.2261
98	0.660	-0.107	406.2	5.908E+00	6.672E-03	7.811E-03	0.2108	0.2468
96	0.660	0.107	411.3	6.822E+00	7.749E-03	9.081E-03	0.2449	0.2870
97	0.660	0.250	414.0	6.211E+00	7.077E-03	8.298E-03	0.2236	0.2622
60	0.660	0.400	422.7	5.253E+00	6.045E-03	7.101E-03	0.1910	0.2244
65	0.700	0.500	429.1	5.528E+00	6.408E-03	7.537E-03	0.2025	0.2382
99	0.750	0.178	414.5	6.541E+00	7.457E-03	8.745E-03	0.2357	0.2763
100	0.755	0.400	419.4	6.397E+00	7.334E-03	8.609E-03	0.2318	0.2721
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 3.034
PITOT AT CENTER LINE = 3.126

RUN 43

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:55:55
DATE RECORDED: 7-JUN-95
TIME RECORDED: 22:25:11
000011021

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
44	S3R 4	A-3	29-O	7.96	330.9	1289.67	30.00	9.98	39.98	-0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.2	0.035	1.544	3825.	3.039E-05	7.737E-08	1.5026E+06	2.827E+06	3.065E-02	0.126

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	238.0	8.142E+00	7.741E-03	8.823E-03	0.2525	0.2878
6	0.060	0.000	231.2	7.255E+00	6.854E-03	7.805E-03	0.2236	0.2546
7	0.080	0.000	222.1	6.803E+00	6.372E-03	7.248E-03	0.2079	0.2364
8	0.100	0.000	222.3	6.424E+00	6.019E-03	6.846E-03	0.1963	0.2233
10	0.150	0.000	217.5	5.138E+00	4.792E-03	5.447E-03	0.1563	0.1777
16	0.192	0.000	207.7	4.542E+00	4.198E-03	4.766E-03	0.1369	0.1555
20	0.250	0.000	208.7	5.502E+00	5.090E-03	5.779E-03	0.1660	0.1885
23	0.300	0.000	207.0	5.849E+00	5.403E-03	6.133E-03	0.1762	0.2001
30	0.350	0.000	222.6	6.530E+00	6.119E-03	6.960E-03	0.1996	0.2271
31	0.400	0.000	218.7	6.971E+00	6.509E-03	7.400E-03	0.2123	0.2414
33	0.450	0.000	226.2	7.649E+00	7.193E-03	8.185E-03	0.2346	0.2670
34	0.500	0.000	227.1	7.903E+00	7.437E-03	8.465E-03	0.2426	0.2761
37	0.550	0.000	221.0	7.316E+00	6.846E-03	7.786E-03	0.2233	0.2540
38	0.600	0.000	221.1	7.472E+00	6.992E-03	7.952E-03	0.2281	0.2594
40	0.650	0.000	226.9	7.719E+00	7.263E-03	8.266E-03	0.2369	0.2696
41	0.700	0.000	226.8	8.035E+00	7.559E-03	8.603E-03	0.2466	0.2807
43	0.750	0.000	232.4	8.120E+00	7.680E-03	8.747E-03	0.2505	0.2854
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	223.3	5.819E+00	5.456E-03	6.207E-03	0.1780	0.2025
11	0.150	0.091	219.7	4.999E+00	4.672E-03	5.313E-03	0.1524	0.1733
17	0.192	0.107	239.0	4.132E+00	3.933E-03	4.483E-03	0.1283	0.1462
87	0.300	-0.106	199.3	4.071E+00	3.734E-03	4.234E-03	0.1218	0.1381
88	0.300	0.061	211.4	5.167E+00	4.792E-03	5.443E-03	0.1563	0.1776
89	0.300	0.122	213.2	4.545E+00	4.222E-03	4.797E-03	0.1377	0.1565
24	0.300	0.160	217.9	4.744E+00	4.426E-03	5.031E-03	0.1444	0.1641
25	0.300	0.221	231.5	4.568E+00	4.318E-03	4.917E-03	0.1408	0.1604
90	0.400	-0.107	210.0	4.291E+00	3.975E-03	4.514E-03	0.1297	0.1473
32	0.400	0.107	224.6	5.971E+00	5.606E-03	6.378E-03	0.1829	0.2081
52	0.400	0.250	234.8	4.135E+00	3.919E-03	4.465E-03	0.1279	0.1457
91	0.425	0.061	230.1	6.908E+00	6.520E-03	7.423E-03	0.2127	0.2422
92	0.425	0.178	226.0	5.072E+00	4.768E-03	5.426E-03	0.1555	0.1770
93	0.500	-0.107	222.8	6.183E+00	5.796E-03	6.593E-03	0.1891	0.2151
35	0.500	0.107	227.7	7.233E+00	6.811E-03	7.753E-03	0.2222	0.2529
94	0.500	0.178	234.2	7.015E+00	6.646E-03	7.572E-03	0.2168	0.2470
53	0.500	0.250	232.5	5.479E+00	5.183E-03	5.903E-03	0.1691	0.1926
95	0.600	-0.250	235.9	5.070E+00	4.812E-03	5.483E-03	0.1570	0.1789
39	0.600	0.107	239.8	8.023E+00	7.642E-03	8.713E-03	0.2493	0.2842

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:55:55
DATE RECORDED: 7-JUN-95
TIME RECORDED: 22:25:11
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RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
44	S3R 4	A-3	29-O	7.96	330.9	1289.67	30.00	9.98	39.98	-0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.2	0.035	1.544	3825.	3.039E-05	7.737E-08	1.5026E+06	2.827E+06	3.065E-02	0.126

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(9TT)/ HREF
54	0.600	0.250	246.6	7.263E+00	6.963E-03	7.945E-03	0.2271	0.2592
98	0.660	-0.107	235.9	7.252E+00	6.882E-03	7.841E-03	0.2245	0.2558
96	0.660	0.107	239.6	8.033E+00	7.650E-03	8.721E-03	0.2496	0.2845
97	0.660	0.250	258.9	8.094E+00	7.852E-03	8.975E-03	0.2562	0.2928
60	0.660	0.400	249.2	7.984E+00	7.674E-03	8.759E-03	0.2503	0.2858
65	0.700	0.500	253.1	8.999E+00	8.682E-03	9.915E-03	0.2832	0.3235
99	0.750	0.178	249.3	8.028E+00	7.717E-03	8.808E-03	0.2517	0.2874
100	0.755	0.400	234.6	9.237E+00	8.755E-03	9.974E-03	0.2856	0.3254
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 2.848
PITOT AT CENTER LINE = 3.381

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:56:00
DATE RECORDED: 7-JUN-95
TIME RECORDED: 22:40:41
00001102

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
45	S3R 6	A-3	29-0	7.93	206.4	1246.67	30.00	9.98	39.98	0.00

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.3	0.022	0.976	3756.	1.993E-05	7.506E-08	9.9710E+05	1.876E+06	2.423E-02	0.122

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	218.9	6.508E+00	6.332E-03	7.207E-03	0.2614	0.2975
6	0.060	0.000	204.0	5.192E+00	4.979E-03	5.656E-03	0.2055	0.2334
7	0.080	0.000	194.3	4.651E+00	4.419E-03	5.013E-03	0.1824	0.2069
8	0.100	0.000	192.0	4.082E+00	3.870E-03	4.389E-03	0.1597	0.1812
10	0.150	0.000	193.1	3.390E+00	3.218E-03	3.650E-03	0.1328	0.1506
16	0.192	0.000	184.9	3.184E+00	2.999E-03	3.398E-03	0.1238	0.1403
20	0.250	0.000	182.2	3.264E+00	3.066E-03	3.473E-03	0.1266	0.1433
23	0.300	0.000	176.1	3.041E+00	2.841E-03	3.215E-03	0.1173	0.1327
30	0.350	0.000	185.7	2.642E+00	2.490E-03	2.822E-03	0.1028	0.1165
31	0.400	0.000	176.8	2.829E+00	2.644E-03	2.993E-03	0.1091	0.1235
33	0.450	0.000	179.1	2.708E+00	2.536E-03	2.872E-03	0.1047	0.1185
34	0.500	0.000	179.7	2.704E+00	2.534E-03	2.870E-03	0.1046	0.1184
37	0.550	0.000	178.3	2.694E+00	2.522E-03	2.855E-03	0.1041	0.1178
38	0.600	0.000	183.9	2.739E+00	2.577E-03	2.919E-03	0.1064	0.1205
40	0.650	0.000	192.6	2.739E+00	2.599E-03	2.947E-03	0.1073	0.1217
41	0.700	0.000	190.5	2.518E+00	2.384E-03	2.703E-03	0.0984	0.1115
43	0.750	0.000	194.9	3.008E+00	2.860E-03	3.245E-03	0.1181	0.1339
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	203.5	4.578E+00	4.389E-03	4.984E-03	0.1811	0.2057
11	0.150	0.091	198.8	3.905E+00	3.726E-03	4.230E-03	0.1538	0.1746
17	0.192	0.107	218.2	3.355E+00	3.262E-03	3.712E-03	0.1347	0.1532
87	0.300	-0.106	182.2	3.356E+00	3.153E-03	3.571E-03	0.1301	0.1474
88	0.300	0.061	186.9	3.025E+00	2.855E-03	3.236E-03	0.1178	0.1336
89	0.300	0.122	196.3	3.487E+00	3.320E-03	3.767E-03	0.1370	0.1555
24	0.300	0.160	197.4	3.571E+00	3.404E-03	3.863E-03	0.1405	0.1594
25	0.300	0.221	209.3	3.654E+00	3.522E-03	4.003E-03	0.1454	0.1652
90	0.400	-0.107	188.4	2.944E+00	2.782E-03	3.153E-03	0.1148	0.1301
32	0.400	0.107	188.6	2.849E+00	2.693E-03	3.052E-03	0.1111	0.1260
52	0.400	0.250	213.7	3.337E+00	3.230E-03	3.673E-03	0.1333	0.1516
91	0.425	0.061	188.0	2.881E+00	2.722E-03	3.085E-03	0.1123	0.1273
92	0.425	0.178	196.5	3.049E+00	2.903E-03	3.294E-03	0.1198	0.1360
93	0.500	-0.107	184.9	2.641E+00	2.487E-03	2.818E-03	0.1027	0.1163
35	0.500	0.107	181.0	2.699E+00	2.533E-03	2.868E-03	0.1045	0.1184
94	0.500	0.178	191.2	3.164E+00	2.998E-03	3.399E-03	0.1237	0.1403
53	0.500	0.250	200.8	3.258E+00	3.115E-03	3.536E-03	0.1286	0.1460
95	0.600	-0.250	202.2	2.784E+00	2.666E-03	3.027E-03	0.1100	0.1249
39	0.600	0.107	196.0	2.774E+00	2.640E-03	2.996E-03	0.1090	0.1237

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:56:09
DATE RECORDED: 7-JUN-95
TIME RECORDED: 22:40:41
0000110?4

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
45	S3R 6	A-3	29-O	7.93	206.4	1246.67	30.00	9.98	39.98	0.00

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.3	0.022	0.976	3756.	1.993E-05	7.506E-08	9.9710E+05	1.876E+06	2.423E-02	0.122

CO-AXIAL DATA

GAGE NO	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	204.1	2.769E+00	2.656E-03	3.017E-03	0.1096	0.1245
98	0.660	-0.107	200.2	2.789E+00	2.665E-03	3.026E-03	0.1100	0.1249
96	0.660	0.107	202.0	3.042E+00	2.912E-03	3.307E-03	0.1202	0.1365
97	0.660	0.250	217.9	2.624E+00	2.550E-03	2.902E-03	0.1053	0.1198
60	0.660	0.400	210.3	3.847E+00	3.712E-03	4.220E-03	0.1532	0.1742
65	0.700	0.500	205.0	4.449E+00	4.271E-03	4.852E-03	0.1763	0.2002
99	0.750	0.178	207.7	2.442E+00	2.350E-03	2.671E-03	0.0970	0.1102
100	0.755	0.400	192.0	2.929E+00	2.777E-03	3.150E-03	0.1146	0.1300
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 1.805
PITOT AT CENTER LINE = 1.988

RUN 45

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 12:57.45
DATE RECORDED: 7-JUN-95
TIME RECORDED: 23:10.54
0000110.5

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
46	S4R 1	D-3	29-0	7.99	577.4	1319.67	30.00	9.98	39.98	-0.01

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.9	0.060	2.661	3876.	5.102E-05	7.879E-08	2.5099E+06	4.723E+06	4.040E-02	0.373

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	565.3	1.005E+01	1.333E-02	1.615E-02	0.3299	0.3998
6	0.060	0.000	551.5	7.318E+00	9.526E-03	1.150E-02	0.2358	0.2847
7	0.080	0.000	541.6	6.149E+00	7.903E-03	9.518E-03	0.1956	0.2356
8	0.100	0.000	549.9	7.987E+00	1.038E-02	1.252E-02	0.2568	0.3100
10	0.150	0.000	540.9	7.628E+00	9.795E-03	1.179E-02	0.2425	0.2919
16	0.192	0.000	532.7	8.745E+00	1.111E-02	1.335E-02	0.2751	0.3305
20	0.250	0.000	540.7	9.998E+00	1.284E-02	1.545E-02	0.3177	0.3825
23	0.300	0.000	535.8	9.241E+00	1.179E-02	1.418E-02	0.2918	0.3509
30	0.350	0.000	537.9	9.650E+00	1.234E-02	1.485E-02	0.3056	0.3676
31	0.400	0.000	536.4	9.416E+00	1.202E-02	1.446E-02	0.2976	0.3579
33	0.450	0.000	541.3	9.903E+00	1.272E-02	1.532E-02	0.3149	0.3792
34	0.500	0.000	543.7	9.721E+00	1.253E-02	1.509E-02	0.3101	0.3737
37	0.550	0.000	543.9	9.246E+00	1.192E-02	1.436E-02	0.2950	0.3555
38	0.600	0.000	550.1	9.620E+00	1.250E-02	1.509E-02	0.3094	0.3735
40	0.650	0.000	555.2	9.417E+00	1.232E-02	1.489E-02	0.3049	0.3686
41	0.700	0.000	556.6	9.203E+00	1.206E-02	1.458E-02	0.2985	0.3610
43	0.750	0.000	555.1	8.939E+00	1.169E-02	1.413E-02	0.2894	0.3498
46	0.850	0.000	*****	********	********	********	*******	*******
49	0.950	0.000	*****	********	********	********	*******	*******
86	0.125	0.055	535.8	5.856E+00	7.471E-03	8.983E-03	0.1849	0.2224
11	0.150	0.091	525.5	5.360E+00	6.748E-03	8.093E-03	0.1671	0.2003
17	0.192	0.107	517.1	4.898E+00	6.103E-03	7.303E-03	0.1511	0.1808
87	0.300	-0.106	525.9	8.114E+00	1.022E-02	1.226E-02	0.2530	0.3035
88	0.300	0.061	535.4	8.662E+00	1.105E-02	1.328E-02	0.2734	0.3287
89	0.300	0.122	515.2	4.933E+00	6.132E-03	7.335E-03	0.1518	0.1816
24	0.300	0.160	511.9	4.933E+00	6.107E-03	7.300E-03	0.1512	0.1807
25	0.300	0.221	510.1	4.913E+00	6.068E-03	7.250E-03	0.1502	0.1795
90	0.400	-0.107	535.1	9.732E+00	1.240E-02	1.491E-02	0.3070	0.3691
32	0.400	0.107	538.0	9.704E+00	1.241E-02	1.494E-02	0.3073	0.3697
52	0.400	0.250	510.1	4.533E+00	5.599E-03	6.689E-03	0.1386	0.1656
91	0.425	0.061	539.6	9.513E+00	1.220E-02	1.468E-02	0.3019	0.3634
92	0.425	0.178	532.0	8.832E+00	1.121E-02	1.347E-02	0.2776	0.3334
93	0.500	-0.107	537.8	1.055E+01	1.350E-02	1.624E-02	0.3342	0.4020
35	0.500	0.107	540.8	9.544E+00	1.225E-02	1.475E-02	0.3033	0.3652
94	0.500	0.178	544.3	1.028E+01	1.325E-02	1.597E-02	0.3281	0.3954
53	0.500	0.250	541.4	9.654E+00	1.240E-02	1.494E-02	0.3071	0.3698
95	0.600	-0.250	543.7	1.021E+01	1.316E-02	1.586E-02	0.3257	0.3925
39	0.600	0.107	552.2	9.692E+00	1.263E-02	1.525E-02	0.3126	0.3775

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER.
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:57:45
DATE RECORDED: 7-JUN-95
TIME RECORDED: 23:19:54
00001102

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
46	S4R 1	D-3	29-O	7.99	577.4	1319.67	30.00	9.98	39.98	-0.01

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.9	0.060	2.661	3876.	5.102E-05	7.879E-08	2.5099E+06	4.723E+06	4.040E-02	0.373

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	553.2	1.017E+01	1.327E-02	1.603E-02	0.3284	0.3967
98	0.660	-0.107	552.1	9.425E+00	1.228E-02	1.483E-02	0.3039	0.3670
96	0.660	0.107	557.6	9.531E+00	1.251E-02	1.513E-02	0.3096	0.3744
97	0.660	0.250	562.7	9.886E+00	1.306E-02	1.582E-02	0.3233	0.3916
60	0.660	0.400	580.2	1.166E+01	1.577E-02	1.920E-02	0.3904	0.4752
65	0.700	0.500	597.9	1.395E+01	1.933E-02	2.365E-02	0.4785	0.5855
99	0.750	0.178	562.0	9.303E+00	1.228E-02	1.487E-02	0.3039	0.3681
100	0.755	0.400	586.4	1.097E+01	1.496E-02	1.824E-02	0.3703	0.4515
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 4.906
PITOT AT CENTER LINE = 5.232

RUN 46

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:57:48
DATE RECORDED: 7-JUN-95
TIME RECORDED: 23:16:44
0000110.1

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
47	S4R 1	D-3	29-0	7.99	575.5	1319.67	30.00	9.98	39.98	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.9	0.059	2.653	3876.	5.086E-05	7.879E-08	2.5017E+06	4.707E+06	4.033E-02	0.388

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	592.4	9.712E+00	1.335E-02	1.632E-02	0.3311	0.4045
6	0.060	0.000	578.2	7.140E+00	9.630E-03	1.171E-02	0.2388	0.2905
7	0.080	0.000	566.4	5.967E+00	7.922E-03	9.604E-03	0.1964	0.2381
8	0.100	0.000	571.5	7.965E+00	1.065E-02	1.293E-02	0.2639	0.3205
10	0.150	0.000	559.1	7.750E+00	1.019E-02	1.233E-02	0.2527	0.3057
16	0.192	0.000	551.8	8.272E+00	1.077E-02	1.301E-02	0.2671	0.3225
20	0.250	0.000	559.8	1.001E+01	1.318E-02	1.595E-02	0.3268	0.3954
23	0.300	0.000	552.9	9.283E+00	1.211E-02	1.462E-02	0.3002	0.3626
30	0.350	0.000	555.4	1.030E+01	1.348E-02	1.630E-02	0.3343	0.4040
31	0.400	0.000	556.5	9.370E+00	1.228E-02	1.485E-02	0.3044	0.3681
33	0.450	0.000	564.6	9.995E+00	1.324E-02	1.604E-02	0.3282	0.3977
34	0.500	0.000	567.0	9.641E+00	1.281E-02	1.553E-02	0.3176	0.3851
37	0.550	0.000	568.1	9.161E+00	1.219E-02	1.478E-02	0.3022	0.3666
38	0.600	0.000	576.8	9.438E+00	1.271E-02	1.545E-02	0.3150	0.3831
40	0.650	0.000	584.3	9.141E+00	1.243E-02	1.515E-02	0.3082	0.3756
41	0.700	0.000	587.9	8.899E+00	1.216E-02	1.484E-02	0.3015	0.3678
43	0.750	0.000	586.3	8.645E+00	1.179E-02	1.438E-02	0.2923	0.3564
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	553.1	5.679E+00	7.408E-03	8.949E-03	0.1837	0.2219
11	0.150	0.091	540.1	5.267E+00	6.757E-03	8.134E-03	0.1675	0.2017
17	0.192	0.107	532.6	4.863E+00	6.178E-03	7.423E-03	0.1532	0.1840
87	0.300	-0.106	544.1	7.898E+00	1.018E-02	1.227E-02	0.2525	0.3042
88	0.300	0.061	551.5	8.556E+00	1.114E-02	1.345E-02	0.2761	0.3334
89	0.300	0.122	532.8	4.939E+00	6.276E-03	7.541E-03	0.1556	0.1870
24	0.300	0.160	527.9	5.035E+00	6.360E-03	7.632E-03	0.1577	0.1892
25	0.300	0.221	523.1	4.988E+00	6.262E-03	7.506E-03	0.1553	0.1861
90	0.400	-0.107	555.6	9.474E+00	1.240E-02	1.499E-02	0.3075	0.3717
32	0.400	0.107	555.7	9.591E+00	1.255E-02	1.518E-02	0.3113	0.3763
52	0.400	0.250	527.4	4.365E+00	5.509E-03	6.610E-03	0.1366	0.1639
91	0.425	0.061	559.3	9.286E+00	1.221E-02	1.478E-02	0.3028	0.3664
92	0.425	0.178	549.5	8.556E+00	1.111E-02	1.341E-02	0.2754	0.3324
93	0.500	-0.107	562.3	9.270E+00	1.224E-02	1.482E-02	0.3035	0.3675
35	0.500	0.107	562.0	9.289E+00	1.226E-02	1.485E-02	0.3040	0.3681
94	0.500	0.178	564.8	1.028E+01	1.361E-02	1.650E-02	0.3375	0.4091
53	0.500	0.250	560.6	9.495E+00	1.251E-02	1.514E-02	0.3101	0.3754
95	0.600	-0.250	570.2	9.570E+00	1.277E-02	1.550E-02	0.3166	0.3843
39	0.600	0.107	577.0	9.517E+00	1.281E-02	1.558E-02	0.3177	0.3864

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12.57.48
DATE RECORDED: 7-JUN-95
TIME RECORDED: 23:16.44
0000110.28

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
47	S4R 1	D-3	29-O	7.99	575.5	1319.67	30.00	9.98	39.98	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.9	0.059	2.653	3876.	5.086E-05	7.879E-08	2.5017E+06	4.707E+06	4.033E-02	0.388

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	576.6	1.008E+01	1.357E-02	1.650E-02	0.3364	0.4090
98	0.660	-0.107	581.8	9.209E+00	1.248E-02	1.520E-02	0.3095	0.3769
96	0.660	0.107	586.2	9.297E+00	1.267E-02	1.546E-02	0.3143	0.3832
97	0.660	0.250	591.6	9.788E+00	1.344E-02	1.642E-02	0.3333	0.4071
60	0.660	0.400	608.7	1.143E+01	1.608E-02	1.974E-02	0.3986	0.4894
65	0.700	0.500	631.5	1.328E+01	1.929E-02	2.387E-02	0.4784	0.5919
99	0.750	0.178	591.9	8.994E+00	1.236E-02	1.510E-02	0.3064	0.3743
100	0.755	0.400	625.0	1.047E+01	1.507E-02	1.861E-02	0.3737	0.4613
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 4.891
PITOT AT CENTER LINE = 5.306

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:57:52
DATE RECORDED: 7-JUN-95
TIME RECORDED: 23:23:09
00001107

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
48	S4R 1	D-3	29-0	7.99	576.1	1318.67	30.00	9.98	39.98	0.00

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.8	0.059	2.655	3874.	5.095E-05	7.873E-08	2.5074E+06	4.718E+06	4.035E-02	0.377

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	577.0	9.926E+00	1.338E-02	1.628E-02	0.3317	0.4034
6	0.060	0.000	562.6	7.244E+00	9.581E-03	1.160E-02	0.2375	0.2876
7	0.080	0.000	550.8	6.104E+00	7.950E-03	9.598E-03	0.1970	0.2379
8	0.100	0.000	557.1	8.249E+00	1.083E-02	1.310E-02	0.2684	0.3247
10	0.150	0.000	545.4	8.000E+00	1.035E-02	1.247E-02	0.2564	0.3091
16	0.192	0.000	539.0	8.466E+00	1.086E-02	1.307E-02	0.2691	0.3239
20	0.250	0.000	544.9	1.023E+01	1.322E-02	1.594E-02	0.3277	0.3950
23	0.300	0.000	536.5	9.453E+00	1.209E-02	1.454E-02	0.2995	0.3603
30	0.350	0.000	541.1	9.568E+00	1.231E-02	1.482E-02	0.3050	0.3673
31	0.400	0.000	544.8	9.488E+00	1.226E-02	1.478E-02	0.3039	0.3663
33	0.450	0.000	554.3	1.012E+01	1.324E-02	1.600E-02	0.3282	0.3966
34	0.500	0.000	557.2	9.844E+00	1.293E-02	1.564E-02	0.3204	0.3875
37	0.550	0.000	558.4	9.333E+00	1.228E-02	1.485E-02	0.3042	0.3681
38	0.600	0.000	568.5	9.629E+00	1.284E-02	1.557E-02	0.3181	0.3860
40	0.650	0.000	577.2	9.220E+00	1.243E-02	1.512E-02	0.3082	0.3748
41	0.700	0.000	581.9	8.966E+00	1.217E-02	1.482E-02	0.3016	0.3674
43	0.750	0.000	582.0	8.657E+00	1.175E-02	1.431E-02	0.2912	0.3547
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	538.5	5.850E+00	7.499E-03	9.024E-03	0.1859	0.2237
11	0.150	0.091	526.9	5.392E+00	6.810E-03	8.171E-03	0.1688	0.2025
17	0.192	0.107	521.2	4.993E+00	6.261E-03	7.502E-03	0.1552	0.1859
87	0.300	-0.106	531.9	8.087E+00	1.028E-02	1.235E-02	0.2547	0.3060
88	0.300	0.061	534.5	8.905E+00	1.136E-02	1.365E-02	0.2814	0.3383
89	0.300	0.122	515.2	5.070E+00	6.309E-03	7.548E-03	0.1564	0.1871
24	0.300	0.160	511.0	5.159E+00	6.388E-03	7.634E-03	0.1583	0.1892
25	0.300	0.221	507.7	5.051E+00	6.229E-03	7.438E-03	0.1544	0.1844
90	0.400	-0.107	547.3	9.597E+00	1.244E-02	1.501E-02	0.3083	0.3719
32	0.400	0.107	543.5	9.760E+00	1.259E-02	1.517E-02	0.3120	0.3760
52	0.400	0.250	516.4	4.478E+00	5.582E-03	6.680E-03	0.1384	0.1656
91	0.425	0.061	548.0	9.429E+00	1.223E-02	1.476E-02	0.3032	0.3658
92	0.425	0.178	539.4	8.853E+00	1.136E-02	1.368E-02	0.2816	0.3390
93	0.500	-0.107	554.7	9.450E+00	1.237E-02	1.495E-02	0.3066	0.3705
35	0.500	0.107	551.9	9.450E+00	1.232E-02	1.488E-02	0.3055	0.3689
94	0.500	0.178	555.3	1.032E+01	1.352E-02	1.634E-02	0.3350	0.4050
53	0.500	0.250	552.9	9.760E+00	1.274E-02	1.540E-02	0.3159	0.3816
95	0.600	-0.250	567.5	9.572E+00	1.274E-02	1.545E-02	0.3158	0.3830
39	0.600	0.107	568.6	9.626E+00	1.283E-02	1.557E-02	0.3181	0.3860

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 12:57 52
DATE RECORDED: 7-JUN 35
TIME RECORDED: 23:23 09
0000110 30

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
48	S4R 1	D-3	29-O	7.99	576.1	1318.67	30.00	9.98	39.98	0.00

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.8	0.059	2.655	3874.	5.095E-05	7.873E-08	2.5074E+06	4.718E+06	4.035E-02	0.377

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	569.2	1.016E+01	1.356E-02	1.645E-02	0.3360	0.4077
98	0.660	-0.107	577.7	9.236E+00	1.246E-02	1.516E-02	0.3089	0.3758
96	0.660	0.107	578.5	9.385E+00	1.268E-02	1.543E-02	0.3143	0.3824
97	0.660	0.250	582.6	9.826E+00	1.335E-02	1.626E-02	0.3308	0.4030
60	0.660	0.400	592.5	1.165E+01	1.604E-02	1.960E-02	0.3975	0.4857
65	0.700	0.500	606.8	1.379E+01	1.938E-02	2.378E-02	0.4803	0.5895
99	0.750	0.178	585.6	9.097E+00	1.241E-02	1.513E-02	0.3075	0.3750
100	0.755	0.400	602.9	1.078E+01	1.507E-02	1.847E-02	0.3734	0.4578
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 4.898
PITOT AT CENTER LINE = 5.706

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 12:57 55
DATE RECORDED: 7-JUN 95
TIME RECORDED: 23:35 58
00001103I

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
49	S4R 3	D-3	29-O	7.98	461.8	1320.67	30.00	9.98	39.98	0.00

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.048	2.138	3876.	4.099E-05	7.906E-08	2.0096E+06	3.781E+06	3.621E-02	0.370

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2 SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	558.1	9.029E+00	1.184E-02	1.432E-02	0.3270	0.3954
6	0.060	0.000	545.2	6.629E+00	8.548E-03	1.030E-02	0.2360	0.2845
7	0.080	0.000	534.8	5.555E+00	7.069E-03	8.497E-03	0.1952	0.2346
8	0.100	0.000	534.8	6.242E+00	7.942E-03	9.546E-03	0.2193	0.2636
10	0.150	0.000	525.1	5.835E+00	7.334E-03	8.794E-03	0.2025	0.2428
16	0.192	0.000	516.6	5.627E+00	6.998E-03	8.373E-03	0.1932	0.2312
20	0.250	0.000	523.3	7.423E+00	9.310E-03	1.116E-02	0.2571	0.3081
23	0.300	0.000	520.8	7.799E+00	9.750E-03	1.168E-02	0.2692	0.3225
30	0.350	0.000	528.5	8.819E+00	1.113E-02	1.336E-02	0.3074	0.3689
31	0.400	0.000	532.0	8.092E+00	1.026E-02	1.233E-02	0.2833	0.3403
33	0.450	0.000	539.9	8.645E+00	1.107E-02	1.333E-02	0.3057	0.3680
34	0.500	0.000	541.9	8.388E+00	1.077E-02	1.297E-02	0.2974	0.3582
37	0.550	0.000	542.7	7.955E+00	1.023E-02	1.232E-02	0.2824	0.3401
38	0.600	0.000	551.0	8.198E+00	1.065E-02	1.286E-02	0.2941	0.3550
40	0.650	0.000	558.7	7.844E+00	1.029E-02	1.245E-02	0.2843	0.3439
41	0.700	0.000	562.8	7.628E+00	1.007E-02	1.219E-02	0.2779	0.3366
43	0.750	0.000	563.3	7.339E+00	9.689E-03	1.174E-02	0.2676	0.3241
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	525.0	5.276E+00	6.630E-03	7.949E-03	0.1831	0.2195
11	0.150	0.091	514.5	4.905E+00	6.085E-03	7.277E-03	0.1680	0.2009
17	0.192	0.107	510.7	4.476E+00	5.526E-03	6.602E-03	0.1526	0.1823
87	0.300	-0.106	512.4	5.263E+00	6.511E-03	7.783E-03	0.1798	0.2149
88	0.300	0.061	516.4	6.749E+00	8.391E-03	1.004E-02	0.2317	0.2772
89	0.300	0.122	505.0	4.379E+00	5.368E-03	6.405E-03	0.1482	0.1769
24	0.300	0.160	502.0	4.565E+00	5.576E-03	6.649E-03	0.1540	0.1836
25	0.300	0.221	500.5	4.497E+00	5.483E-03	6.536E-03	0.1514	0.1805
90	0.400	-0.107	534.1	7.617E+00	9.684E-03	1.164E-02	0.2674	0.3214
32	0.400	0.107	528.9	7.898E+00	9.975E-03	1.197E-02	0.2754	0.3306
52	0.400	0.250	509.5	3.922E+00	4.836E-03	5.776E-03	0.1335	0.1595
91	0.425	0.061	535.3	8.044E+00	1.024E-02	1.231E-02	0.2828	0.3400
92	0.425	0.178	521.4	6.144E+00	7.687E-03	9.208E-03	0.2123	0.2543
93	0.500	-0.107	541.0	8.003E+00	1.026E-02	1.236E-02	0.2835	0.3413
35	0.500	0.107	536.6	8.008E+00	1.021E-02	1.228E-02	0.2820	0.3392
94	0.500	0.178	539.0	8.577E+00	1.097E-02	1.320E-02	0.3030	0.3646
53	0.500	0.250	531.8	6.731E+00	8.532E-03	1.025E-02	0.2356	0.2830
95	0.600	-0.250	552.3	8.175E+00	1.064E-02	1.285E-02	0.2938	0.3548
39	0.600	0.107	550.6	8.211E+00	1.066E-02	1.287E-02	0.2944	0.3554

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 12:57 56
DATE RECORDED: 7-JUN 95
TIME RECORDED: 23:35 58
00001101

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
49	S4R 3	D-3	29-0	7.98	461.8	1320.67	30.00	9.98	39.98	0.00

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.048	2.138	3876.	4.099E-05	7.906E-08	2.0096E+06	3.781E+06	3.621E-02	0.370

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	550.3	8.722E+00	1.132E-02	1.366E-02	0.3126	0.3773
98	0.660	-0.107	560.9	7.888E+00	1.038E-02	1.257E-02	0.2867	0.3470
96	0.660	0.107	558.8	8.144E+00	1.069E-02	1.293E-02	0.2952	0.3571
97	0.660	0.250	561.2	8.529E+00	1.123E-02	1.359E-02	0.3101	0.3754
60	0.660	0.400	566.9	9.432E+00	1.251E-02	1.517E-02	0.3455	0.4189
65	0.700	0.500	574.1	1.069E+01	1.432E-02	1.740E-02	0.3956	0.4806
99	0.750	0.178	564.3	7.776E+00	1.028E-02	1.246E-02	0.2839	0.3439
100	0.755	0.400	572.3	9.437E+00	1.261E-02	1.531E-02	0.3482	0.4228
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

PITOT AT LIFT OFF = 3.947
PITOT AT CENTER LINE = 4.112

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13.08.12
DATE RECORDED: 8-JUN-95
TIME RECORDED: 16:09.22
00001103G

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
50	S4R 9	D-3	29-0	7.98	465.8	1312.67	30.00	9.97	39.97	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.6	0.048	2.156	3863	4.161E-05	7.853E-08	2.0468E+06	3.851E+06	3.633E-02	0.412

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(9TT)/ HREF
3	0.040	0.000	581.8	8.850E+00	1.211E-02	1.476E-02	0.3333	0.4063
6	0.060	0.000	571.6	6.478E+00	8.740E-03	1.062E-02	0.2406	0.2924
7	0.080	0.000	565.5	5.373E+00	7.191E-03	8.724E-03	0.1979	0.2401
8	0.100	0.000	575.1	7.007E+00	9.499E-03	1.156E-02	0.2615	0.3181
10	0.150	0.000	568.0	5.444E+00	7.310E-03	8.874E-03	0.2012	0.2443
16	0.192	0.000	563.7	4.995E+00	6.670E-03	8.087E-03	0.1836	0.2226
20	0.250	0.000	570.7	6.195E+00	8.349E-03	1.014E-02	0.2298	0.2792
23	0.300	0.000	572.5	6.846E+00	9.248E-03	1.124E-02	0.2546	0.3094
30	0.350	0.000	576.0	7.546E+00	1.024E-02	1.246E-02	0.2819	0.3430
31	0.400	0.000	574.9	7.729E+00	1.048E-02	1.274E-02	0.2884	0.3508
33	0.450	0.000	577.6	8.172E+00	1.112E-02	1.353E-02	0.3060	0.3725
34	0.500	0.000	577.2	7.918E+00	1.077E-02	1.311E-02	0.2963	0.3607
37	0.550	0.000	576.1	7.653E+00	1.039E-02	1.264E-02	0.2860	0.3480
38	0.600	0.000	579.6	7.919E+00	1.080E-02	1.316E-02	0.2974	0.3622
40	0.650	0.000	581.5	7.627E+00	1.043E-02	1.271E-02	0.2871	0.3500
41	0.700	0.000	580.6	7.439E+00	1.016E-02	1.238E-02	0.2797	0.3408
43	0.750	0.000	577.6	7.222E+00	9.824E-03	1.196E-02	0.2704	0.3292
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	565.4	5.038E+00	6.741E-03	8.177E-03	0.1855	0.2251
11	0.150	0.091	561.4	4.636E+00	6.171E-03	7.477E-03	0.1699	0.2058
17	0.192	0.107	562.0	4.141E+00	5.516E-03	6.686E-03	0.1518	0.1840
87	0.300	-0.106	558.8	3.746E+00	4.969E-03	6.017E-03	0.1368	0.1656
88	0.300	0.061	572.6	6.561E+00	8.866E-03	1.078E-02	0.2440	0.2967
89	0.300	0.122	561.9	4.139E+00	5.514E-03	6.682E-03	0.1518	0.1839
24	0.300	0.160	560.6	4.234E+00	5.630E-03	6.821E-03	0.1550	0.1877
25	0.300	0.221	560.0	4.206E+00	5.588E-03	6.769E-03	0.1538	0.1863
90	0.400	-0.107	558.6	3.365E+00	4.462E-03	5.402E-03	0.1228	0.1487
32	0.400	0.107	575.1	7.698E+00	1.044E-02	1.270E-02	0.2873	0.3495
52	0.400	0.250	560.3	3.684E+00	4.896E-03	5.931E-03	0.1348	0.1633
91	0.425	0.061	576.4	7.747E+00	1.052E-02	1.281E-02	0.2896	0.3525
92	0.425	0.178	568.1	5.867E+00	7.879E-03	9.566E-03	0.2169	0.2633
93	0.500	-0.107	569.6	5.927E+00	7.976E-03	9.687E-03	0.2195	0.2666
35	0.500	0.107	574.7	7.690E+00	1.042E-02	1.267E-02	0.2868	0.3489
94	0.500	0.178	577.8	8.288E+00	1.128E-02	1.373E-02	0.3104	0.3780
53	0.500	0.250	572.2	6.522E+00	8.808E-03	1.071E-02	0.2424	0.2947
95	0.600	-0.250	569.2	4.048E+00	5.445E-03	6.612E-03	0.1499	0.1820
39	0.600	0.107	579.3	7.870E+00	1.073E-02	1.307E-02	0.2954	0.3598

RUN 50

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 13.08.12
DATE RECORDED: 8-JUN-95
TIME RECORDED: 16.09.22
00001103?

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
50	S4R 9	D-3	29-0	7.98	465.8	1312.67	30.00	9.97	39.97	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.6	0.048	2.156	3863.	4.161E-05	7.853E-08	2.0468E+06	3.851E+06	3.633E-02	0.412

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	580.3	8.377E+00	1.144E-02	1.394E-02	0.3148	0.3836
98	0.660	-0.107	582.2	7.724E+00	1.057E-02	1.289E-02	0.2910	0.3548
96	0.660	0.107	581.7	7.854E+00	1.074E-02	1.310E-02	0.2957	0.3605
97	0.660	0.250	583.7	8.188E+00	1.123E-02	1.370E-02	0.3092	0.3770
60	0.660	0.400	588.3	9.151E+00	1.263E-02	1.543E-02	0.3477	0.4247
65	0.700	0.500	590.7	1.045E+01	1.448E-02	1.769E-02	0.3985	0.4870
99	0.750	0.178	580.6	7.630E+00	1.042E-02	1.270E-02	0.2869	0.3496
100	0.755	0.400	584.9	9.164E+00	1.259E-02	1.536E-02	0.3466	0.4229
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

RUN 50

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:08:15
DATE RECORDED: 8-JUN-95
TIME RECORDED: 16:23:31
00001107

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
51	S4R 5	D-3	29-0	7.96	330.1	1292.67	30.00	9.97	39.97	-0.07

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.4	0.035	1.541	3830.	3.025E-05	7.757E-08	1.4936E+06	2.810E+06	3.063E-02	0.414

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	571.1	7.281E+00	1.009E-02	1.229E-02	0.3294	0.4013
6	0.060	0.000	562.3	5.323E+00	7.288E-03	8.856E-03	0.2379	0.2891
7	0.080	0.000	556.0	4.455E+00	6.048E-03	7.335E-03	0.1975	0.2395
8	0.100	0.000	558.7	4.841E+00	6.596E-03	8.006E-03	0.2153	0.2614
10	0.150	0.000	554.5	3.719E+00	5.038E-03	6.107E-03	0.1645	0.1994
16	0.192	0.000	549.9	3.354E+00	4.516E-03	5.467E-03	0.1474	0.1785
20	0.250	0.000	553.5	3.489E+00	4.720E-03	5.720E-03	0.1541	0.1867
23	0.300	0.000	554.0	3.817E+00	5.167E-03	6.263E-03	0.1687	0.2045
30	0.350	0.000	559.7	4.484E+00	6.117E-03	7.427E-03	0.1997	0.2425
31	0.400	0.000	560.5	5.013E+00	6.847E-03	8.315E-03	0.2235	0.2715
33	0.450	0.000	564.9	5.657E+00	7.772E-03	9.451E-03	0.2537	0.3085
34	0.500	0.000	567.1	5.782E+00	7.969E-03	9.697E-03	0.2602	0.3166
37	0.550	0.000	567.8	5.685E+00	7.842E-03	9.544E-03	0.2560	0.3116
38	0.600	0.000	571.2	5.928E+00	8.217E-03	1.001E-02	0.2683	0.3268
40	0.650	0.000	575.2	5.690E+00	7.932E-03	9.675E-03	0.2589	0.3159
41	0.700	0.000	575.8	5.562E+00	7.759E-03	9.466E-03	0.2533	0.3090
43	0.750	0.000	572.6	5.338E+00	7.414E-03	9.036E-03	0.2420	0.2950
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	556.0	4.121E+00	5.595E-03	6.786E-03	0.1827	0.2215
11	0.150	0.091	551.4	3.796E+00	5.122E-03	6.203E-03	0.1672	0.2025
17	0.192	0.107	552.7	3.414E+00	4.614E-03	5.590E-03	0.1506	0.1825
87	0.300	-0.106	550.0	3.027E+00	4.075E-03	4.934E-03	0.1330	0.1611
88	0.300	0.061	554.2	3.394E+00	4.596E-03	5.571E-03	0.1500	0.1819
89	0.300	0.122	553.3	3.241E+00	4.383E-03	5.311E-03	0.1431	0.1734
24	0.300	0.160	551.5	3.391E+00	4.575E-03	5.541E-03	0.1494	0.1809
25	0.300	0.221	551.5	3.348E+00	4.517E-03	5.471E-03	0.1475	0.1786
90	0.400	-0.107	552.0	2.490E+00	3.361E-03	4.072E-03	0.1097	0.1329
32	0.400	0.107	556.3	3.867E+00	5.251E-03	6.369E-03	0.1714	0.2079
52	0.400	0.250	554.0	2.958E+00	4.005E-03	4.854E-03	0.1307	0.1585
91	0.425	0.061	564.0	5.275E+00	7.240E-03	8.801E-03	0.2364	0.2873
92	0.425	0.178	553.2	2.976E+00	4.025E-03	4.878E-03	0.1314	0.1592
93	0.500	-0.107	556.7	2.950E+00	4.008E-03	4.862E-03	0.1309	0.1587
35	0.500	0.107	563.5	5.334E+00	7.314E-03	8.890E-03	0.2388	0.2902
94	0.500	0.178	560.6	4.400E+00	6.010E-03	7.298E-03	0.1962	0.2383
53	0.500	0.250	556.9	3.125E+00	4.247E-03	5.153E-03	0.1387	0.1682
95	0.600	-0.250	561.4	2.292E+00	3.135E-03	3.808E-03	0.1023	0.1243
39	0.600	0.107	571.2	5.971E+00	8.277E-03	1.008E-02	0.2702	0.3292

RUN 51

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:08:15
DATE RECORDED: 8-JUN-95
TIME RECORDED: 16:23:31
0000110139

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
51	S4R 5	D-3	29-0	7.96	330.1	1292.67	30.00	9.97	39.97	-0.07

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.4	0.035	1.541	3830.	3.025E-05	7.757E-08	1.4936E+06	2.810E+06	3.063E-02	0.414

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	567.6	4.768E+00	6.576E-03	8.002E-03	0.2147	0.2612
98	0.660	-0.107	575.0	5.431E+00	7.568E-03	9.231E-03	0.2471	0.3013
96	0.660	0.107	575.2	5.972E+00	8.323E-03	1.015E-02	0.2717	0.3314
97	0.660	0.250	575.5	5.692E+00	7.937E-03	9.682E-03	0.2591	0.3161
60	0.660	0.400	574.7	4.086E+00	5.690E-03	6.939E-03	0.1858	0.2266
65	0.700	0.500	574.2	4.266E+00	5.937E-03	7.240E-03	0.1938	0.2364
99	0.750	0.178	575.5	5.683E+00	7.924E-03	9.667E-03	0.2587	0.3156
100	0.755	0.400	576.8	5.410E+00	7.557E-03	9.222E-03	0.2467	0.3011
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

RUN 51

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:08:19
DATE RECORDED: 8-JUN-95
TIME RECORDED: 16:40:38
000011040

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
52	S4R 7	D-3	29-0	7.93	206.2	1244.67	30.00	9.96	39.96	-0.07

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.1	0.022	0.975	3753.	1.993E-05	7.493E-08	9.9834E+05	1.879E+06	2.421E-02	0.430

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	561.0	5.372E+00	7.858E-03	9.607E-03	0.3246	0.3969
6	0.060	0.000	554.3	3.946E+00	5.715E-03	6.972E-03	0.2361	0.2880
7	0.080	0.000	549.2	3.301E+00	4.746E-03	5.781E-03	0.1961	0.2388
8	0.100	0.000	549.4	3.288E+00	4.730E-03	5.761E-03	0.1954	0.2380
10	0.150	0.000	546.7	2.433E+00	3.485E-03	4.242E-03	0.1440	0.1752
16	0.192	0.000	543.4	2.150E+00	3.066E-03	3.727E-03	0.1267	0.1540
20	0.250	0.000	545.7	1.999E+00	2.860E-03	3.479E-03	0.1181	0.1437
23	0.300	0.000	544.0	1.914E+00	2.731E-03	3.321E-03	0.1128	0.1372
30	0.350	0.000	546.5	1.811E+00	2.594E-03	3.156E-03	0.1072	0.1304
31	0.400	0.000	544.8	1.595E+00	2.279E-03	2.772E-03	0.0942	0.1145
33	0.450	0.000	546.9	1.590E+00	2.278E-03	2.773E-03	0.0941	0.1146
34	0.500	0.000	549.1	1.610E+00	2.315E-03	2.819E-03	0.0956	0.1165
37	0.550	0.000	550.9	1.510E+00	2.176E-03	2.652E-03	0.0899	0.1096
38	0.600	0.000	555.5	1.533E+00	2.224E-03	2.714E-03	0.0919	0.1121
40	0.650	0.000	560.1	1.220E+00	1.783E-03	2.179E-03	0.0737	0.0900
41	0.700	0.000	559.2	6.368E-01	9.290E-04	1.135E-03	0.0384	0.0469
43	0.750	0.000	560.4	2.116E+00	3.093E-03	3.781E-03	0.1278	0.1562
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	549.9	3.003E+00	4.322E-03	5.265E-03	0.1785	0.2175
11	0.150	0.091	545.9	2.786E+00	3.987E-03	4.851E-03	0.1647	0.2004
17	0.192	0.107	547.9	2.562E+00	3.677E-03	4.477E-03	0.1519	0.1849
87	0.300	-0.106	545.2	2.201E+00	3.147E-03	3.828E-03	0.1300	0.1582
88	0.300	0.061	546.9	2.022E+00	2.898E-03	3.527E-03	0.1197	0.1457
89	0.300	0.122	548.3	2.364E+00	3.394E-03	4.133E-03	0.1402	0.1707
24	0.300	0.160	546.5	2.457E+00	3.519E-03	4.282E-03	0.1454	0.1769
25	0.300	0.221	546.9	2.556E+00	3.663E-03	4.458E-03	0.1513	0.1842
90	0.400	-0.107	547.6	1.819E+00	2.610E-03	3.177E-03	0.1078	0.1313
32	0.400	0.107	546.1	1.813E+00	2.595E-03	3.157E-03	0.1072	0.1304
52	0.400	0.250	549.3	2.172E+00	3.123E-03	3.804E-03	0.1290	0.1572
91	0.425	0.061	547.9	1.686E+00	2.420E-03	2.947E-03	0.1000	0.1217
92	0.425	0.178	547.6	2.096E+00	3.007E-03	3.661E-03	0.1242	0.1512
93	0.500	-0.107	549.0	1.572E+00	2.260E-03	2.752E-03	0.0934	0.1137
35	0.500	0.107	547.0	1.454E+00	2.084E-03	2.537E-03	0.0861	0.1048
94	0.500	0.178	549.0	1.935E+00	2.781E-03	3.387E-03	0.1149	0.1399
53	0.500	0.250	550.7	2.056E+00	2.962E-03	3.610E-03	0.1224	0.1491
95	0.600	-0.250	556.0	1.684E+00	2.445E-03	2.984E-03	0.1010	0.1233
39	0.600	0.107	555.4	1.536E+00	2.228E-03	2.719E-03	0.0921	0.1123

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 13:08 13
DATE RECORDED: 8-JUN 95
TIME RECORDED: 16:40 38
00001104I

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
52	S4R 7	D-3	29-0	7.93	206.2	1244.67	30.00	9.96	39.96	-0.07

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.1	0.022	0.975	3753.	1.993E-05	7.493E-08	9.9834E+05	1.879E+06	2.421E-02	0.430

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	555.3	1.702E+00	2.469E-03	3.013E-03	0.1020	0.1245
98	0.660	-0.107	560.6	1.223E+00	1.787E-03	2.185E-03	0.0738	0.0903
96	0.660	0.107	560.0	1.353E+00	1.977E-03	2.416E-03	0.0817	0.0998
97	0.660	0.250	560.2	1.243E+00	1.816E-03	2.219E-03	0.0750	0.0917
60	0.660	0.400	562.7	2.048E+00	3.003E-03	3.673E-03	0.1240	0.1517
65	0.700	0.500	563.4	2.457E+00	3.606E-03	4.412E-03	0.1490	0.1823
99	0.750	0.178	561.9	1.832E+00	2.683E-03	3.281E-03	0.1108	0.1355
100	0.755	0.400	561.8	1.550E+00	2.270E-03	2.776E-03	0.0938	0.1147
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

RUN 52

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 13:08:23
DATE RECORDED: 8-JUN 95
TIME RECORDED: 16:43:58
000011042

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
53	S4R11	D-3	29-O	7.93	209.9	1242.67	30.00	4.95	34.95	-0.11

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.9	0.023	0.992	3749.	2.032E-05	7.478E-08	1.0186E+06	1.917E+06	2.441E-02	0.423

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	562.2	4.907E+00	7.210E-03	8.821E-03	0.2954	0.3614
6	0.060	0.000	554.8	3.564E+00	5.182E-03	6.324E-03	0.2123	0.2591
7	0.080	0.000	547.5	2.884E+00	4.149E-03	5.052E-03	0.1700	0.2070
8	0.100	0.000	544.1	2.867E+00	4.104E-03	4.992E-03	0.1681	0.2045
10	0.150	0.000	534.3	2.175E+00	3.071E-03	3.724E-03	0.1258	0.1526
16	0.192	0.000	526.3	1.941E+00	2.709E-03	3.278E-03	0.1110	0.1343
20	0.250	0.000	528.7	1.859E+00	2.603E-03	3.152E-03	0.1067	0.1291
23	0.300	0.000	530.8	1.703E+00	2.393E-03	2.899E-03	0.0980	0.1188
30	0.350	0.000	538.9	1.572E+00	2.234E-03	2.713E-03	0.0915	0.1111
31	0.400	0.000	542.1	1.409E+00	2.012E-03	2.446E-03	0.0824	0.1002
33	0.450	0.000	546.3	1.294E+00	1.858E-03	2.261E-03	0.0761	0.0926
34	0.500	0.000	547.2	1.371E+00	1.971E-03	2.400E-03	0.0808	0.0983
37	0.550	0.000	546.1	1.335E+00	1.917E-03	2.333E-03	0.0785	0.0956
38	0.600	0.000	547.5	1.349E+00	1.941E-03	2.363E-03	0.0795	0.0968
40	0.650	0.000	550.9	1.264E+00	1.827E-03	2.227E-03	0.0748	0.0912
41	0.700	0.000	556.2	1.138E+00	1.659E-03	2.025E-03	0.0679	0.0830
43	0.750	0.000	556.8	1.056E+00	1.540E-03	1.881E-03	0.0631	0.0771
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	541.1	2.664E+00	3.797E-03	4.614E-03	0.1556	0.1890
11	0.150	0.091	535.0	2.539E+00	3.587E-03	4.351E-03	0.1470	0.1783
17	0.192	0.107	534.7	2.280E+00	3.221E-03	3.907E-03	0.1320	0.1600
87	0.300	-0.106	534.1	2.037E+00	2.875E-03	3.486E-03	0.1178	0.1428
88	0.300	0.061	533.9	1.806E+00	2.548E-03	3.090E-03	0.1044	0.1266
89	0.300	0.122	536.8	2.112E+00	2.992E-03	3.631E-03	0.1226	0.1487
24	0.300	0.160	535.8	2.171E+00	3.071E-03	3.726E-03	0.1258	0.1526
25	0.300	0.221	538.5	2.217E+00	3.148E-03	3.823E-03	0.1290	0.1566
90	0.400	-0.107	545.6	1.602E+00	2.298E-03	2.796E-03	0.0941	0.1146
32	0.400	0.107	543.6	1.480E+00	2.118E-03	2.576E-03	0.0868	0.1055
52	0.400	0.250	548.0	1.948E+00	2.805E-03	3.416E-03	0.1149	0.1399
91	0.425	0.061	546.7	1.406E+00	2.020E-03	2.459E-03	0.0828	0.1007
92	0.425	0.178	546.4	1.721E+00	2.471E-03	3.008E-03	0.1012	0.1232
93	0.500	-0.107	546.7	1.356E+00	1.948E-03	2.371E-03	0.0798	0.0971
35	0.500	0.107	545.4	1.241E+00	1.780E-03	2.166E-03	0.0729	0.0888
94	0.500	0.178	547.0	1.612E+00	2.317E-03	2.821E-03	0.0949	0.1156
53	0.500	0.250	548.3	1.876E+00	2.701E-03	3.290E-03	0.1107	0.1348
95	0.600	-0.250	550.9	1.438E+00	2.079E-03	2.534E-03	0.0852	0.1038
39	0.600	0.107	547.8	1.286E+00	1.851E-03	2.254E-03	0.0758	0.0923

RUN 53

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:08:23
DATE RECORDED: 8-JUN-95
TIME RECORDED: 16:43:58
00001104

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
53	S4R11	D-3	29-O	7.93	209.9	1242.67	30.00	4.95	34.95	-0.11

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.9	0.023	0.992	3749.	2.032E-05	7.478E-08	1.0186E+06	1.917E+06	2.441E-02	0.423

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	548.4	1.416E+00	2.040E-03	2.484E-03	0.0836	0.1018
98	0.660	-0.107	554.2	1.262E+00	1.833E-03	2.237E-03	0.0751	0.0916
96	0.660	0.107	552.0	1.408E+00	2.039E-03	2.486E-03	0.0835	0.1019
97	0.660	0.250	552.7	1.194E+00	1.730E-03	2.110E-03	0.0709	0.0865
60	0.660	0.400	556.3	2.059E+00	3.000E-03	3.663E-03	0.1229	0.1501
65	0.700	0.500	562.4	2.471E+00	3.632E-03	4.443E-03	0.1488	0.1820
99	0.750	0.178	559.1	1.015E+00	1.485E-03	1.815E-03	0.0608	0.0744
100	0.755	0.400	561.8	1.546E+00	2.271E-03	2.778E-03	0.0930	0.1138
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:08:26
DATE RECORDED: 8-JUN-95
TIME RECORDED: 16:47:15
000011044

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
54	S4R13	D-3	.29-O	7.93	207.5	1239.67	30.00	12.95	42.95	0.07

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.7	0.022	0.981	3745.	2.014E-05	7.460E-08	1.0110E+06	1.902E+06	2.426E-02	0.426

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	566.1	5.551E+00	8.242E-03	1.010E-02	0.3397	0.4163
6	0.060	0.000	557.9	4.099E+00	6.011E-03	7.347E-03	0.2478	0.3028
7	0.080	0.000	550.1	3.493E+00	5.066E-03	6.176E-03	0.2088	0.2546
8	0.100	0.000	546.7	3.547E+00	5.119E-03	6.234E-03	0.2110	0.2569
10	0.150	0.000	538.4	2.674E+00	3.813E-03	4.632E-03	0.1572	0.1909
16	0.192	0.000	533.2	2.394E+00	3.389E-03	4.110E-03	0.1397	0.1694
20	0.250	0.000	536.8	2.255E+00	3.209E-03	3.896E-03	0.1323	0.1606
23	0.300	0.000	537.9	2.065E+00	2.942E-03	3.573E-03	0.1213	0.1473
30	0.350	0.000	544.4	1.869E+00	2.688E-03	3.271E-03	0.1108	0.1348
31	0.400	0.000	545.0	1.688E+00	2.430E-03	2.958E-03	0.1002	0.1219
33	0.450	0.000	547.0	1.699E+00	2.453E-03	2.987E-03	0.1011	0.1231
34	0.500	0.000	547.4	1.743E+00	2.518E-03	3.068E-03	0.1038	0.1264
37	0.550	0.000	549.5	1.637E+00	2.371E-03	2.890E-03	0.0977	0.1191
38	0.600	0.000	556.6	1.416E+00	2.072E-03	2.532E-03	0.0854	0.1044
40	0.650	0.000	555.6	7.708E-01	1.127E-03	1.376E-03	0.0464	0.0567
41	0.700	0.000	563.7	3.454E+00	5.110E-03	6.257E-03	0.2106	0.2579
43	0.750	0.000	571.3	7.885E+00	1.180E-02	1.448E-02	0.4863	0.5970
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	544.4	3.300E+00	4.746E-03	5.776E-03	0.1956	0.2381
11	0.150	0.091	538.5	3.059E+00	4.364E-03	5.301E-03	0.1798	0.2185
17	0.192	0.107	539.8	2.771E+00	3.959E-03	4.811E-03	0.1632	0.1983
87	0.300	-0.106	540.3	2.354E+00	3.366E-03	4.092E-03	0.1387	0.1686
88	0.300	0.061	541.1	2.180E+00	3.121E-03	3.795E-03	0.1286	0.1564
89	0.300	0.122	543.3	2.496E+00	3.585E-03	4.361E-03	0.1477	0.1797
24	0.300	0.160	541.8	2.644E+00	3.789E-03	4.608E-03	0.1562	0.1899
25	0.300	0.221	542.5	2.615E+00	3.750E-03	4.561E-03	0.1546	0.1880
90	0.400	-0.107	548.0	1.966E+00	2.842E-03	3.462E-03	0.1171	0.1427
32	0.400	0.107	546.1	1.887E+00	2.721E-03	3.313E-03	0.1121	0.1365
52	0.400	0.250	549.4	2.298E+00	3.329E-03	4.058E-03	0.1372	0.1672
91	0.425	0.061	548.5	1.761E+00	2.547E-03	3.104E-03	0.1050	0.1279
92	0.425	0.178	547.9	2.180E+00	3.151E-03	3.839E-03	0.1299	0.1582
93	0.500	-0.107	547.4	1.675E+00	2.419E-03	2.947E-03	0.0997	0.1215
35	0.500	0.107	545.3	1.576E+00	2.270E-03	2.763E-03	0.0935	0.1139
94	0.500	0.178	547.1	2.048E+00	2.958E-03	3.602E-03	0.1219	0.1485
53	0.500	0.250	548.8	2.169E+00	3.139E-03	3.826E-03	0.1294	0.1577
95	0.600	-0.250	558.6	1.242E+00	1.824E-03	2.229E-03	0.0752	0.0919
39	0.600	0.107	556.2	1.342E+00	1.963E-03	2.398E-03	0.0809	0.0988

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:08:27
DATE RECORDED: 8-JUN-95
TIME RECORDED: 16:47:13
000011045

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
54	S4R13	D-3	29-O	7.93	207.5	1239.67	30.00	12.95	42.95	0.07

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.7	0.022	0.981	3745.	2.014E-05	7.460E-08	1.0110E+06	1.902E+06	2.426E-02	0.426

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	555.7	1.210E+00	1.769E-03	2.161E-03	0.0729	0.0891
98	0.660	-0.107	557.8	1.126E+00	1.652E-03	2.019E-03	0.0681	0.0832
96	0.660	0.107	555.7	1.167E+00	1.706E-03	2.084E-03	0.0703	0.0859
97	0.660	0.250	556.9	1.442E+00	2.112E-03	2.581E-03	0.0871	0.1064
60	0.660	0.400	559.3	1.970E+00	2.896E-03	3.541E-03	0.1194	0.1460
65	0.700	0.500	580.8	1.098E+01	1.667E-02	2.053E-02	0.6869	0.8461
99	0.750	0.178	574.1	8.508E+00	1.278E-02	1.571E-02	0.5269	0.6475
100	0.755	0.400	574.3	7.752E+00	1.165E-02	1.432E-02	0.4802	0.5901
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:08:30
DATE RECORDED: 8-JUN-95
TIME RECORDED: 16:51:49
0000111046

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
55	S4R15	D-3	29-0	7.93	207.6	1238.67	30.00	-10.11	40.11	180.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.6	0.022	0.981	3743.	2.017E-05	7.454E-08	1.0128E+06	1.906E+06	2.426E-02	0.427

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	555.1	5.149E+00	7.533E-03	9.200E-03	0.3105	0.3792
6	0.060	0.000	549.1	3.906E+00	5.664E-03	6.904E-03	0.2334	0.2845
7	0.080	0.000	543.2	3.275E+00	4.709E-03	5.730E-03	0.1941	0.2361
8	0.100	0.000	542.1	3.311E+00	4.753E-03	5.781E-03	0.1959	0.2383
10	0.150	0.000	538.0	2.581E+00	3.684E-03	4.475E-03	0.1518	0.1844
16	0.192	0.000	533.8	2.159E+00	3.064E-03	3.717E-03	0.1263	0.1532
20	0.250	0.000	537.5	2.203E+00	3.141E-03	3.816E-03	0.1295	0.1572
23	0.300	0.000	537.8	2.009E+00	2.866E-03	3.482E-03	0.1181	0.1435
30	0.350	0.000	543.4	1.790E+00	2.575E-03	3.133E-03	0.1061	0.1291
31	0.400	0.000	543.4	1.658E+00	2.385E-03	2.901E-03	0.0983	0.1196
33	0.450	0.000	546.5	1.656E+00	2.392E-03	2.914E-03	0.0986	0.1201
34	0.500	0.000	549.4	1.613E+00	2.340E-03	2.853E-03	0.0964	0.1176
37	0.550	0.000	550.4	1.613E+00	2.344E-03	2.859E-03	0.0966	0.1178
38	0.600	0.000	551.6	1.546E+00	2.251E-03	2.746E-03	0.0928	0.1131
40	0.650	0.000	553.2	1.202E+00	1.753E-03	2.140E-03	0.0723	0.0882
41	0.700	0.000	556.6	9.127E-01	1.338E-03	1.635E-03	0.0551	0.0674
43	0.750	0.000	560.5	2.471E+00	3.644E-03	4.458E-03	0.1502	0.1837
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	541.8	3.022E+00	4.336E-03	5.273E-03	0.1787	0.2173
11	0.150	0.091	537.2	2.829E+00	4.033E-03	4.898E-03	0.1662	0.2018
17	0.192	0.107	539.7	2.535E+00	3.627E-03	4.408E-03	0.1495	0.1817
87	0.300	-0.106	540.0	2.247E+00	3.215E-03	3.908E-03	0.1325	0.1611
88	0.300	0.061	541.1	2.089E+00	2.995E-03	3.641E-03	0.1234	0.1501
89	0.300	0.122	543.0	2.403E+00	3.454E-03	4.202E-03	0.1424	0.1732
24	0.300	0.160	541.4	2.606E+00	3.737E-03	4.544E-03	0.1540	0.1873
25	0.300	0.221	541.9	2.538E+00	3.643E-03	4.431E-03	0.1501	0.1826
90	0.400	-0.107	546.7	1.900E+00	2.745E-03	3.344E-03	0.1131	0.1378
32	0.400	0.107	544.3	1.795E+00	2.585E-03	3.147E-03	0.1065	0.1297
52	0.400	0.250	547.9	2.215E+00	3.207E-03	3.908E-03	0.1322	0.1610
91	0.425	0.061	547.0	1.742E+00	2.519E-03	3.069E-03	0.1038	0.1265
92	0.425	0.178	546.4	2.088E+00	3.016E-03	3.673E-03	0.1243	0.1514
93	0.500	-0.107	549.9	1.580E+00	2.294E-03	2.797E-03	0.0945	0.1153
35	0.500	0.107	546.6	1.530E+00	2.210E-03	2.692E-03	0.0911	0.1109
94	0.500	0.178	548.4	1.940E+00	2.810E-03	3.425E-03	0.1158	0.1411
53	0.500	0.250	550.2	2.098E+00	3.047E-03	3.715E-03	0.1256	0.1531
95	0.600	-0.250	553.2	1.651E+00	2.408E-03	2.939E-03	0.0992	0.1211
39	0.600	0.107	550.9	1.527E+00	2.221E-03	2.709E-03	0.0915	0.1116

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL 2[illegible]
TIME COMPUTED: 13:08 [illegible]
DATE RECORDED: 8-JUN [illegible]
TIME RECORDED: 16:51:40
000011947

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
55	S4R15	D-3	29-O	7.93	207.6	1238.67	30.00	-10.11	40.11	180.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.6	0.022	0.981	3743.	2.017E-05	7.454E-08	1.0128E+06	1.906E+06	2.426E-02	0.427

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	550.2	1.617E+00	2.348E-03	2.863E-03	0.0968	0.1180
98	0.660	-0.107	555.3	1.179E+00	1.726E-03	2.108E-03	0.0711	0.0869
96	0.660	0.107	553.4	1.204E+00	1.757E-03	2.145E-03	0.0724	0.0884
97	0.660	0.250	553.0	1.109E+00	1.617E-03	1.973E-03	0.0666	0.0813
60	0.660	0.400	557.3	2.062E+00	3.027E-03	3.699E-03	0.1247	0.1524
65	0.700	0.500	564.4	2.552E+00	3.785E-03	4.637E-03	0.1560	0.1911
99	0.750	0.178	562.0	2.430E+00	3.591E-03	4.396E-03	0.1480	0.1812
100	0.755	0.400	566.4	3.357E+00	4.994E-03	6.122E-03	0.2058	0.2523
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

RUN 55

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 13:08 34
DATE RECORDED: 8-JUN 95
TIME RECORDED: 17:35 01
000011048

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
56	S4R 2	D-3	29-0	7.98	461.8	1319.67	30.00	9.98	39.98	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.048	2.138	3874.	4.102E-05	7.899E-08	2.0119E+06	3.786E+06	3.621E-02	0.135

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	252.7	9.352E+00	8.765E-03	1.000E-02	0.2421	0.2762
6	0.060	0.000	233.9	7.209E+00	6.639E-03	7.558E-03	0.1834	0.2087
7	0.080	0.000	224.6	6.415E+00	5.858E-03	6.661E-03	0.1618	0.1840
8	0.100	0.000	256.1	9.253E+00	8.700E-03	9.932E-03	0.2403	0.2743
10	0.150	0.000	246.3	7.095E+00	6.610E-03	7.537E-03	0.1826	0.2082
16	0.192	0.000	240.7	6.494E+00	6.019E-03	6.858E-03	0.1662	0.1894
20	0.250	0.000	246.1	8.753E+00	8.154E-03	9.296E-03	0.2252	0.2567
23	0.300	0.000	239.3	8.882E+00	8.222E-03	9.366E-03	0.2271	0.2587
30	0.350	0.000	258.0	9.706E+00	9.142E-03	1.044E-02	0.2525	0.2883
31	0.400	0.000	248.8	9.553E+00	8.920E-03	1.017E-02	0.2464	0.2810
33	0.450	0.000	261.0	1.054E+01	9.958E-03	1.138E-02	0.2750	0.3142
34	0.500	0.000	258.2	1.038E+01	9.783E-03	1.117E-02	0.2702	0.3086
37	0.550	0.000	251.1	9.593E+00	8.978E-03	1.024E-02	0.2479	0.2829
38	0.600	0.000	254.9	1.025E+01	9.622E-03	1.098E-02	0.2657	0.3033
40	0.650	0.000	265.4	1.035E+01	9.817E-03	1.122E-02	0.2711	0.3099
41	0.700	0.000	262.8	1.033E+01	9.776E-03	1.117E-02	0.2700	0.3085
43	0.750	0.000	263.1	9.987E+00	9.452E-03	1.080E-02	0.2610	0.2983
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	238.9	6.567E+00	6.076E-03	6.921E-03	0.1678	0.1911
11	0.150	0.091	241.9	5.675E+00	5.265E-03	6.000E-03	0.1454	0.1657
17	0.192	0.107	276.7	4.869E+00	4.668E-03	5.344E-03	0.1289	0.1476
87	0.300	-0.106	265.7	9.313E+00	8.836E-03	1.010E-02	0.2440	0.2790
88	0.300	0.061	243.7	8.471E+00	7.873E-03	8.974E-03	0.2174	0.2478
89	0.300	0.122	253.3	7.044E+00	6.606E-03	7.539E-03	0.1824	0.2082
24	0.300	0.160	242.1	5.663E+00	5.256E-03	5.989E-03	0.1452	0.1654
25	0.300	0.221	265.4	5.447E+00	5.167E-03	5.906E-03	0.1427	0.1631
90	0.400	-0.107	264.1	9.078E+00	8.601E-03	9.830E-03	0.2375	0.2715
32	0.400	0.107	266.5	9.589E+00	9.105E-03	1.041E-02	0.2515	0.2875
52	0.400	0.250	280.2	7.361E+00	7.081E-03	8.111E-03	0.1956	0.2240
91	0.425	0.061	269.5	9.876E+00	9.404E-03	1.076E-02	0.2597	0.2970
92	0.425	0.178	280.8	9.927E+00	9.556E-03	1.095E-02	0.2639	0.3023
93	0.500	-0.107	264.7	9.426E+00	8.935E-03	1.021E-02	0.2468	0.2821
35	0.500	0.107	266.1	9.865E+00	9.363E-03	1.070E-02	0.2586	0.2956
94	0.500	0.178	280.2	1.077E+01	1.036E-02	1.186E-02	0.2861	0.3277
53	0.500	0.250	290.7	1.076E+01	1.045E-02	1.199E-02	0.2887	0.3312
95	0.600	-0.250	319.6	9.816E+00	9.815E-03	1.131E-02	0.2711	0.3123
39	0.600	0.107	274.7	1.047E+01	1.002E-02	1.147E-02	0.2767	0.3167

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:08:34
DATE RECORDED: 8-JUN-95
TIME RECORDED: 17:35:01
000011042

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
56	S4R 2	D-3	29-O	7.98	461.8	1319.67	30.00	9.98	39.98	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.048	2.138	3874.	4.102E-05	7.899E-08	2.0119E+06	3.786E+06	3.621E-02	0.135

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	292.4	1.068E+01	1.040E-02	1.193E-02	0.2871	0.3294
98	0.660	-0.107	291.6	1.037E+01	1.008E-02	1.157E-02	0.2785	0.3195
96	0.660	0.107	273.5	1.048E+01	1.002E-02	1.146E-02	0.2766	0.3166
97	0.660	0.250	291.7	1.076E+01	1.047E-02	1.201E-02	0.2891	0.3316
60	0.660	0.400	284.6	1.297E+01	1.253E-02	1.437E-02	0.3462	0.3968
65	0.700	0.500	283.2	1.557E+01	1.502E-02	1.721E-02	0.4148	0.4754
99	0.750	0.178	276.9	1.011E+01	9.696E-03	1.110E-02	0.2678	0.3066
100	0.755	0.400	257.6	1.266E+01	1.192E-02	1.362E-02	0.3293	0.3761
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:08:38
DATE RECORDED: 8-JUN-95
TIME RECORDED: 17:51:25
000011050

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
57	S4R 4	D-3	29-0	7.96	333.0	1288.67	30.00	9.99	39.99	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.1	0.035	1.554	3824.	3.061E-05	7.730E-08	1.5141E+06	2.849E+06	3.075E-02	0.131

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	237.5	7.980E+00	7.591E-03	8.652E-03	0.2469	0.2814
6	0.060	0.000	225.7	6.963E+00	6.550E-03	7.454E-03	0.2130	0.2424
7	0.080	0.000	216.9	6.402E+00	5.973E-03	6.790E-03	0.1943	0.2208
8	0.100	0.000	232.6	7.287E+00	6.900E-03	7.859E-03	0.2244	0.2556
10	0.150	0.000	228.8	5.713E+00	5.390E-03	6.136E-03	0.1753	0.1996
16	0.192	0.000	216.9	4.867E+00	4.541E-03	5.162E-03	0.1477	0.1679
20	0.250	0.000	216.7	6.002E+00	5.599E-03	6.364E-03	0.1821	0.2070
23	0.300	0.000	216.1	6.529E+00	6.087E-03	6.918E-03	0.1980	0.2250
30	0.350	0.000	233.8	7.230E+00	6.854E-03	7.808E-03	0.2229	0.2540
31	0.400	0.000	230.9	7.714E+00	7.293E-03	8.304E-03	0.2372	0.2701
33	0.450	0.000	236.2	7.740E+00	7.354E-03	8.380E-03	0.2392	0.2726
34	0.500	0.000	237.4	8.071E+00	7.677E-03	8.750E-03	0.2497	0.2846
37	0.550	0.000	232.1	7.711E+00	7.298E-03	8.312E-03	0.2374	0.2703
38	0.600	0.000	231.6	7.936E+00	7.507E-03	8.550E-03	0.2442	0.2781
40	0.650	0.000	240.6	8.139E+00	7.766E-03	8.855E-03	0.2526	0.2880
41	0.700	0.000	235.9	8.074E+00	7.669E-03	8.739E-03	0.2494	0.2842
43	0.750	0.000	235.5	7.602E+00	7.218E-03	8.224E-03	0.2348	0.2675
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	225.5	5.863E+00	5.515E-03	6.276E-03	0.1794	0.2041
11	0.150	0.091	224.8	5.010E+00	4.709E-03	5.359E-03	0.1532	0.1743
17	0.192	0.107	249.3	4.052E+00	3.899E-03	4.451E-03	0.1268	0.1448
87	0.300	-0.106	212.5	4.733E+00	4.398E-03	4.996E-03	0.1430	0.1625
88	0.300	0.061	219.3	5.709E+00	5.338E-03	6.070E-03	0.1736	0.1974
89	0.300	0.122	218.3	4.450E+00	4.157E-03	4.726E-03	0.1352	0.1537
24	0.300	0.160	222.8	4.730E+00	4.438E-03	5.048E-03	0.1443	0.1642
25	0.300	0.221	238.6	4.695E+00	4.471E-03	5.096E-03	0.1454	0.1658
90	0.400	-0.107	217.8	3.644E+00	3.403E-03	3.869E-03	0.1107	0.1258
32	0.400	0.107	239.7	6.509E+00	6.205E-03	7.074E-03	0.2018	0.2301
52	0.400	0.250	255.6	4.357E+00	4.217E-03	4.818E-03	0.1372	0.1567
91	0.425	0.061	249.5	7.822E+00	7.527E-03	8.592E-03	0.2448	0.2795
92	0.425	0.178	244.9	5.003E+00	4.794E-03	5.469E-03	0.1559	0.1779
93	0.500	-0.107	224.3	4.883E+00	4.588E-03	5.220E-03	0.1492	0.1698
35	0.500	0.107	248.7	7.683E+00	7.388E-03	8.433E-03	0.2403	0.2743
94	0.500	0.178	262.9	7.600E+00	7.410E-03	8.474E-03	0.2410	0.2756
53	0.500	0.250	277.6	6.366E+00	6.296E-03	7.216E-03	0.2048	0.2347
95	0.600	-0.250	238.4	3.618E+00	3.445E-03	3.927E-03	0.1121	0.1277
39	0.600	0.107	254.3	8.151E+00	7.881E-03	9.002E-03	0.2563	0.2928

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:08:38
DATE RECORDED: 8-JUN-95
TIME RECORDED: 17:51:25
00001105

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
57	S4R 4	D-3	29-O	7.96	333.0	1288.67	30.00	9.99	39.99	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.1	0.035	1.554	3824	3.061E-05	7.730E-08	1.5141E+06	2.849E+06	3.075E-02	0.131

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	285.5	7.984E+00	7.959E-03	9.132E-03	0.2589	0.2970
98	0.660	-0.107	249.0	7.925E+00	7.622E-03	8.701E-03	0.2479	0.2830
96	0.660	0.107	251.8	8.255E+00	7.962E-03	9.091E-03	0.2589	0.2957
97	0.660	0.250	278.2	8.178E+00	8.093E-03	9.276E-03	0.2632	0.3017
60	0.660	0.400	284.2	9.225E+00	9.184E-03	1.054E-02	0.2987	0.3427
65	0.700	0.500	267.5	1.042E+01	1.020E-02	1.168E-02	0.3318	0.3798
99	0.750	0.178	259.6	7.746E+00	7.527E-03	8.605E-03	0.2448	0.2799
100	0.755	0.400	238.9	9.756E+00	9.293E-03	1.059E-02	0.3023	0.3446
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:08:42
DATE RECORDED: 8-JUN-95
TIME RECORDED: 18:04:03
000011052

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
58	S4R 6	D-3	29-0	7.94	240.3	1260.67	30.00	9.99	39.99	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
94.2	0.026	1.131	3778.	2.282E-05	7.581E-08	1.1372E+06	2.140E+06	2.613E-02	0.289

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	405.3	6.504E+00	7.604E-03	8.919E-03	0.2910	0.3413
6	0.060	0.000	394.5	4.865E+00	5.616E-03	6.573E-03	0.2149	0.2515
7	0.080	0.000	388.3	4.046E+00	4.638E-03	5.421E-03	0.1775	0.2075
8	0.100	0.000	390.8	4.236E+00	4.870E-03	5.696E-03	0.1864	0.2180
10	0.150	0.000	385.3	2.973E+00	3.397E-03	3.968E-03	0.1300	0.1518
16	0.192	0.000	380.1	2.590E+00	2.941E-03	3.432E-03	0.1125	0.1314
20	0.250	0.000	382.6	2.548E+00	2.901E-03	3.388E-03	0.1110	0.1296
23	0.300	0.000	379.1	2.386E+00	2.706E-03	3.158E-03	0.1036	0.1208
30	0.350	0.000	382.4	2.124E+00	2.419E-03	2.824E-03	0.0926	0.1081
31	0.400	0.000	375.3	2.022E+00	2.283E-03	2.662E-03	0.0874	0.1019
33	0.450	0.000	373.4	1.867E+00	2.104E-03	2.453E-03	0.0805	0.0939
34	0.500	0.000	370.3	1.981E+00	2.225E-03	2.592E-03	0.0852	0.0992
37	0.550	0.000	365.9	1.912E+00	2.136E-03	2.487E-03	0.0818	0.0952
38	0.600	0.000	372.4	1.910E+00	2.150E-03	2.506E-03	0.0823	0.0959
40	0.650	0.000	377.5	1.771E+00	2.005E-03	2.339E-03	0.0767	0.0895
41	0.700	0.000	376.0	1.020E+00	1.152E-03	1.344E-03	0.0441	0.0514
43	0.750	0.000	382.8	2.869E+00	3.268E-03	3.817E-03	0.1251	0.1460
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	393.6	3.742E+00	4.316E-03	5.050E-03	0.1652	0.1933
11	0.150	0.091	390.0	3.374E+00	3.875E-03	4.531E-03	0.1483	0.1734
17	0.192	0.107	392.6	2.971E+00	3.423E-03	4.004E-03	0.1310	0.1532
87	0.300	-0.106	380.4	2.733E+00	3.104E-03	3.623E-03	0.1188	0.1386
88	0.300	0.061	385.3	2.542E+00	2.904E-03	3.393E-03	0.1111	0.1298
89	0.300	0.122	390.3	2.959E+00	3.400E-03	3.976E-03	0.1301	0.1521
24	0.300	0.160	391.0	3.012E+00	3.463E-03	4.050E-03	0.1325	0.1550
25	0.300	0.221	395.4	2.912E+00	3.366E-03	3.940E-03	0.1288	0.1508
90	0.400	-0.107	377.5	2.181E+00	2.470E-03	2.881E-03	0.0945	0.1103
32	0.400	0.107	378.7	2.169E+00	2.459E-03	2.869E-03	0.0941	0.1098
52	0.400	0.250	388.8	2.565E+00	2.942E-03	3.439E-03	0.1126	0.1316
91	0.425	0.061	378.8	2.025E+00	2.296E-03	2.679E-03	0.0879	0.1025
92	0.425	0.178	380.3	2.377E+00	2.701E-03	3.152E-03	0.1033	0.1206
93	0.500	-0.107	366.9	1.874E+00	2.096E-03	2.440E-03	0.0802	0.0934
35	0.500	0.107	368.1	1.776E+00	1.990E-03	2.317E-03	0.0762	0.0887
94	0.500	0.178	373.1	2.403E+00	2.708E-03	3.156E-03	0.1036	0.1208
53	0.500	0.250	378.6	2.502E+00	2.837E-03	3.310E-03	0.1086	0.1267
95	0.600	-0.250	368.9	2.089E+00	2.342E-03	2.728E-03	0.0896	0.1044
39	0.600	0.107	375.6	1.908E+00	2.155E-03	2.513E-03	0.0825	0.0962

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:08:42
DATE RECORDED: 8-JUN-95
TIME RECORDED: 18:04:03
00001105

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
58	S4R 6	D-3	29-0	7.94	240.3	1260.67	30.00	9.99	39.99	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
94.2	0.026	1.131	3778.	2.282E-05	7.581E-08	1.1372E+06	2.140E+06	2.613E-02	0.289

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	378.0	2.064E+00	2.338E-03	2.728E-03	0.0895	0.1044
98	0.660	-0.107	375.9	1.740E+00	1.967E-03	2.293E-03	0.0753	0.0878
96	0.660	0.107	380.1	2.026E+00	2.300E-03	2.685E-03	0.0880	0.1027
97	0.660	0.250	382.8	1.724E+00	1.964E-03	2.293E-03	0.0751	0.0877
60	0.660	0.400	391.3	2.640E+00	3.037E-03	3.552E-03	0.1162	0.1359
65	0.700	0.500	395.9	3.106E+00	3.592E-03	4.205E-03	0.1374	0.1609
99	0.750	0.178	386.0	2.212E+00	2.529E-03	2.955E-03	0.0968	0.1131
100	0.755	0.400	382.4	2.190E+00	2.494E-03	2.912E-03	0.0954	0.1114
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

RUN 58

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:08:46
DATE RECORDED: 8-JUN-95
TIME RECORDED: 18:11:51
000011054

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
59	S4R 6	D-3	29-O	7.93	206.9	1248.67	30.00	9.99	39.99	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.4	0.022	0.978	3759.	1.993E-05	7.519E-08	9.9653E+05	1.875E+06	2.426E-02	0.114

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	213.2	6.800E+00	6.567E-03	7.467E-03	0.2707	0.3078
6	0.060	0.000	192.9	5.113E+00	4.843E-03	5.493E-03	0.1997	0.2264
7	0.080	0.000	187.1	5.006E+00	4.716E-03	5.344E-03	0.1944	0.2203
8	0.100	0.000	189.5	4.798E+00	4.530E-03	5.135E-03	0.1867	0.2117
10	0.150	0.000	185.4	3.513E+00	3.304E-03	3.744E-03	0.1362	0.1543
16	0.192	0.000	173.7	3.157E+00	2.937E-03	3.322E-03	0.1211	0.1370
20	0.250	0.000	174.2	3.264E+00	3.038E-03	3.437E-03	0.1252	0.1417
23	0.300	0.000	169.6	3.061E+00	2.837E-03	3.208E-03	0.1169	0.1322
30	0.350	0.000	178.6	2.934E+00	2.742E-03	3.104E-03	0.1130	0.1280
31	0.400	0.000	169.1	2.837E+00	2.628E-03	2.971E-03	0.1083	0.1225
33	0.450	0.000	171.3	2.709E+00	2.514E-03	2.844E-03	0.1036	0.1172
34	0.500	0.000	171.7	2.785E+00	2.586E-03	2.925E-03	0.1066	0.1206
37	0.550	0.000	170.7	2.798E+00	2.596E-03	2.936E-03	0.1070	0.1210
38	0.600	0.000	176.6	2.922E+00	2.725E-03	3.085E-03	0.1123	0.1272
40	0.650	0.000	188.2	2.888E+00	2.723E-03	3.087E-03	0.1123	0.1272
41	0.700	0.000	187.0	2.636E+00	2.482E-03	2.813E-03	0.1023	0.1160
43	0.750	0.000	190.1	3.828E+00	3.616E-03	4.100E-03	0.1491	0.1690
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	192.4	4.565E+00	4.322E-03	4.902E-03	0.1782	0.2021
11	0.150	0.091	182.3	4.034E+00	3.783E-03	4.285E-03	0.1560	0.1766
17	0.192	0.107	195.7	3.529E+00	3.352E-03	3.803E-03	0.1382	0.1568
87	0.300	-0.106	173.7	3.270E+00	3.042E-03	3.442E-03	0.1254	0.1419
88	0.300	0.061	180.2	3.070E+00	2.873E-03	3.253E-03	0.1184	0.1341
89	0.300	0.122	187.7	3.597E+00	3.390E-03	3.842E-03	0.1398	0.1584
24	0.300	0.160	187.1	3.773E+00	3.554E-03	4.028E-03	0.1465	0.1660
25	0.300	0.221	193.7	3.809E+00	3.610E-03	4.095E-03	0.1488	0.1688
90	0.400	-0.107	179.6	2.886E+00	2.699E-03	3.056E-03	0.1113	0.1260
32	0.400	0.107	179.1	2.880E+00	2.693E-03	3.049E-03	0.1110	0.1257
52	0.400	0.250	201.1	3.301E+00	3.151E-03	3.577E-03	0.1299	0.1475
91	0.425	0.061	178.8	2.842E+00	2.656E-03	3.007E-03	0.1095	0.1240
92	0.425	0.178	186.4	3.171E+00	2.985E-03	3.382E-03	0.1230	0.1394
93	0.500	-0.107	175.9	2.763E+00	2.576E-03	2.915E-03	0.1062	0.1202
35	0.500	0.107	170.9	2.689E+00	2.495E-03	2.821E-03	0.1028	0.1163
94	0.500	0.178	178.6	3.118E+00	2.913E-03	3.298E-03	0.1201	0.1360
53	0.500	0.250	187.6	3.364E+00	3.170E-03	3.593E-03	0.1307	0.1481
95	0.600	-0.250	187.8	2.913E+00	2.746E-03	3.112E-03	0.1132	0.1283
39	0.600	0.107	185.2	2.876E+00	2.705E-03	3.064E-03	0.1115	0.1263

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 13:08 46
DATE RECORDED: 8-JUN-95
TIME RECORDED: 18:11 51
00001105

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
59	S4R 6	D-3	29-0	7.93	206.9	1248.67	30.00	9.99	39.99	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.4	0.022	0.978	3759.	1.993E-05	7.519E-08	9.9653E+05	1.875E+06	2.426E-02	0.114

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	187.1	3.060E+00	2.883E-03	3.267E-03	0.1188	0.1347
98	0.660	0.107	192.8	2.840E+00	2.690E-03	3.050E-03	0.1109	0.1257
96	0.660	0.107	196.4	3.294E+00	3.130E-03	3.552E-03	0.1290	0.1464
97	0.660	0.250	200.5	2.899E+00	2.765E-03	3.139E-03	0.1140	0.1294
60	0.660	0.400	190.8	4.254E+00	4.022E-03	4.560E-03	0.1658	0.1880
65	0.700	0.500	187.7	4.694E+00	4.424E-03	5.015E-03	0.1824	0.2067
99	0.750	0.178	201.5	3.048E+00	2.911E-03	3.305E-03	0.1200	0.1363
100	0.755	0.400	184.6	3.521E+00	3.309E-03	3.749E-03	0.1364	0.1546
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

RUN 59

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:08.49
DATE RECORDED: 8-JUN-95
TIME RECORDED: 18:19:51
000011056

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
60	S4R 8	D-3	29-0	7.93	209.0	1241.67	30.00	4.95	34.95	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.9	0.022	0.988	3748.	2.025E-05	7.472E-08	1.0156E+06	1.911E+06	2.435E-02	0.182

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	289.4	5.444E+00	5.717E-03	6.574E-03	0.2347	0.2699
6	0.060	0.000	265.4	4.203E+00	4.306E-03	4.933E-03	0.1768	0.2026
7	0.080	0.000	256.6	3.438E+00	3.490E-03	3.994E-03	0.1433	0.1640
8	0.100	0.000	264.6	3.897E+00	3.988E-03	4.569E-03	0.1638	0.1876
10	0.150	0.000	262.2	3.004E+00	3.067E-03	3.513E-03	0.1259	0.1442
16	0.192	0.000	261.9	2.500E+00	2.552E-03	2.923E-03	0.1048	0.1200
20	0.250	0.000	252.3	2.325E+00	2.350E-03	2.687E-03	0.0965	0.1103
23	0.300	0.000	241.4	2.374E+00	2.374E-03	2.710E-03	0.0975	0.1113
30	0.350	0.000	240.7	2.418E+00	2.416E-03	2.758E-03	0.0992	0.1132
31	0.400	0.000	230.5	2.641E+00	2.612E-03	2.977E-03	0.1072	0.1223
33	0.450	0.000	233.8	2.980E+00	2.956E-03	3.372E-03	0.1214	0.1384
34	0.500	0.000	233.1	3.376E+00	3.347E-03	3.817E-03	0.1374	0.1567
37	0.550	0.000	227.3	3.570E+00	3.520E-03	4.011E-03	0.1445	0.1647
38	0.600	0.000	230.1	3.820E+00	3.776E-03	4.305E-03	0.1551	0.1767
40	0.650	0.000	233.1	3.926E+00	3.893E-03	4.439E-03	0.1598	0.1823
41	0.700	0.000	235.8	4.129E+00	4.105E-03	4.683E-03	0.1686	0.1923
43	0.750	0.000	232.0	4.057E+00	4.019E-03	4.582E-03	0.1650	0.1881
46	0.850	0.000	230.9	4.355E+00	4.309E-03	4.912E-03	0.1769	0.2017
49	0.950	0.000	215.3	3.374E+00	3.287E-03	3.740E-03	0.1350	0.1536
86	0.125	0.055	273.4	3.119E+00	3.221E-03	3.695E-03	0.1323	0.1517
11	0.150	0.091	278.9	2.740E+00	2.846E-03	3.268E-03	0.1169	0.1342
17	0.192	0.107	281.7	2.555E+00	2.662E-03	3.057E-03	0.1093	0.1255
87	0.300	-0.106	235.1	2.469E+00	2.453E-03	2.798E-03	0.1007	0.1149
88	0.300	0.061	248.0	2.407E+00	2.422E-03	2.768E-03	0.0995	0.1137
89	0.300	0.122	257.1	2.693E+00	2.735E-03	3.129E-03	0.1123	0.1285
24	0.300	0.160	265.2	2.553E+00	2.615E-03	2.996E-03	0.1074	0.1230
25	0.300	0.221	279.2	2.683E+00	2.787E-03	3.200E-03	0.1144	0.1314
90	0.400	-0.107	228.0	2.119E+00	2.091E-03	2.383E-03	0.0859	0.0978
32	0.400	0.107	229.2	2.240E+00	2.212E-03	2.522E-03	0.0908	0.1035
52	0.400	0.250	259.5	2.505E+00	2.550E-03	2.919E-03	0.1047	0.1199
91	0.425	0.061	232.9	2.788E+00	2.764E-03	3.152E-03	0.1135	0.1294
92	0.425	0.178	235.8	2.414E+00	2.399E-03	2.737E-03	0.0985	0.1124
93	0.500	-0.107	220.7	1.855E+00	1.817E-03	2.069E-03	0.0746	0.0849
35	0.500	0.107	222.5	2.770E+00	2.718E-03	3.095E-03	0.1116	0.1271
94	0.500	0.178	224.2	2.381E+00	2.340E-03	2.665E-03	0.0961	0.1094
53	0.500	0.250	237.0	2.441E+00	2.430E-03	2.773E-03	0.0998	0.1139
95	0.600	-0.250	221.7	2.130E+00	2.089E-03	2.378E-03	0.0858	0.0976
39	0.600	0.107	229.8	3.777E+00	3.733E-03	4.255E-03	0.1533	0.1747

RUN 60

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13.08.50
DATE RECORDED: 8-JUN-95
TIME RECORDED: 18:19:51
00001105?

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
60	S4R 8	D-3	29-0	7.93	209.0	1241.67	30.00	4.95	34.95	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.9	0.022	0.988	3748	2.025E-05	7.472E-08	1.0156E+06	1.911E+06	2.435E-02	0.182

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	223.5	2.283E+00	2.242E-03	2.554E-03	0.0921	0.1049
98	0.660	-0.107	229.9	3.129E+00	3.093E-03	3.525E-03	0.1270	0.1448
96	0.660	0.107	234.0	4.310E+00	4.277E-03	4.878E-03	0.1756	0.2003
97	0.660	0.250	232.2	2.542E+00	2.518E-03	2.871E-03	0.1034	0.1179
60	0.660	0.400	239.8	3.175E+00	3.169E-03	3.617E-03	0.1301	0.1485
65	0.700	0.500	245.5	3.792E+00	3.807E-03	4.349E-03	0.1563	0.1786
99	0.750	0.178	237.7	3.972E+00	3.957E-03	4.515E-03	0.1625	0.1854
100	0.755	0.400	217.2	2.555E+00	2.494E-03	2.838E-03	0.1024	0.1165
101	0.800	-0.250	234.5	2.239E+00	2.223E-03	2.535E-03	0.0913	0.1041
45	0.800	0.107	233.8	4.453E+00	4.418E-03	5.039E-03	0.1814	0.2069
56	0.800	0.250	236.7	3.866E+00	3.847E-03	4.389E-03	0.1579	0.1802
66	0.800	0.500	216.7	2.603E+00	2.539E-03	2.889E-03	0.1043	0.1186
70	0.800	0.600	226.8	3.252E+00	3.204E-03	3.651E-03	0.1316	0.1499
75	0.800	0.750	249.5	3.200E+00	3.225E-03	3.687E-03	0.1324	0.1514
102	0.886	0.732	226.7	2.954E+00	2.910E-03	3.316E-03	0.1195	0.1361
103	0.900	-0.107	222.5	3.580E+00	3.513E-03	4.001E-03	0.1443	0.1643
57	0.900	0.250	243.3	3.556E+00	3.562E-03	4.068E-03	0.1463	0.1670

RUN 60

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:08:55
DATE RECORDED: 8-JUN 95
TIME RECORDED: 18:54:50
00001105B

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
61	S5R 1	G-3	29-O	7.99	576.3	1322.67	30.00	9.97	39.97	0.01

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.059	2.657	3880.	5.081E-05	7.898E-08	2.4962E+06	4.697E+06	4.038E-02	0.372

CO-AXIAL DATA

GAGE NO	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	579.2	9.795E+00	1.317E-02	1.602E-02	0.3263	0.3969
6	0.060	0.000	564.1	7.250E+00	9.558E-03	1.158E-02	0.2367	0.2867
7	0.080	0.000	553.7	5.991E+00	7.791E-03	9.410E-03	0.1930	0.2331
8	0.100	0.000	548.1	5.700E+00	7.359E-03	8.874E-03	0.1823	0.2198
10	0.150	0.000	532.8	4.595E+00	5.817E-03	6.986E-03	0.1441	0.1730
16	0.192	0.000	520.2	4.044E+00	5.039E-03	6.034E-03	0.1248	0.1494
20	0.250	0.000	515.7	4.051E+00	5.020E-03	6.005E-03	0.1243	0.1487
23	0.300	0.000	509.6	3.721E+00	4.576E-03	5.465E-03	0.1133	0.1354
30	0.350	0.000	506.6	3.465E+00	4.246E-03	5.067E-03	0.1052	0.1255
31	0.400	0.000	520.2	6.628E+00	8.259E-03	9.889E-03	0.2045	0.2449
33	0.450	0.000	526.1	7.505E+00	9.422E-03	1.130E-02	0.2333	0.2798
34	0.500	0.000	537.1	9.764E+00	1.243E-02	1.495E-02	0.3078	0.3702
37	0.550	0.000	538.9	9.683E+00	1.235E-02	1.486E-02	0.3060	0.3681
38	0.600	0.000	548.2	9.841E+00	1.271E-02	1.532E-02	0.3147	0.3795
40	0.650	0.000	554.2	9.748E+00	1.268E-02	1.532E-02	0.3141	0.3795
41	0.700	0.000	553.6	9.275E+00	1.206E-02	1.456E-02	0.2987	0.3607
43	0.750	0.000	548.7	8.978E+00	1.160E-02	1.399E-02	0.2873	0.3465
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	544.4	5.670E+00	7.285E-03	8.777E-03	0.1804	0.2174
11	0.150	0.091	531.6	5.317E+00	6.722E-03	8.072E-03	0.1665	0.1999
17	0.192	0.107	523.4	4.890E+00	6.118E-03	7.331E-03	0.1515	0.1816
87	0.300	-0.106	509.1	4.471E+00	5.495E-03	6.562E-03	0.1361	0.1625
88	0.300	0.061	513.3	3.992E+00	4.932E-03	5.895E-03	0.1221	0.1460
89	0.300	0.122	514.5	4.759E+00	5.888E-03	7.040E-03	0.1458	0.1744
24	0.300	0.160	512.6	5.026E+00	6.204E-03	7.415E-03	0.1537	0.1836
25	0.300	0.221	511.4	4.946E+00	6.097E-03	7.284E-03	0.1510	0.1804
90	0.400	-0.107	503.2	3.629E+00	4.429E-03	5.281E-03	0.1097	0.1308
32	0.400	0.107	504.3	3.441E+00	4.205E-03	5.015E-03	0.1041	0.1242
52	0.400	0.250	506.7	4.303E+00	5.274E-03	6.294E-03	0.1306	0.1559
91	0.425	0.061	505.6	3.372E+00	4.127E-03	4.924E-03	0.1022	0.1220
92	0.425	0.178	505.9	4.056E+00	4.966E-03	5.925E-03	0.1230	0.1467
93	0.500	-0.107	507.4	3.100E+00	3.803E-03	4.540E-03	0.0942	0.1124
35	0.500	0.107	506.9	2.984E+00	3.658E-03	4.366E-03	0.0906	0.1081
94	0.500	0.178	509.7	3.707E+00	4.559E-03	5.445E-03	0.1129	0.1349
53	0.500	0.250	511.0	4.072E+00	5.017E-03	5.994E-03	0.1243	0.1484
95	0.600	-0.250	523.1	3.558E+00	4.450E-03	5.332E-03	0.1102	0.1321
39	0.600	0.107	535.1	5.858E+00	7.439E-03	8.940E-03	0.1842	0.2214

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ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 13.08.53
DATE RECORDED: 8-JUN 95
TIME RECORDED: 18:54:50
00001105

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
61	S5R 1	G-3	29-O	7.99	576.3	1322.67	30.00	9.97	39.97	0.01

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.059	2.657	3880.	5.081E-05	7.898E-08	2.4962E+06	4.697E+06	4.038E-02	0.372

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	527.1	3.629E+00	4.562E-03	5.472E-03	0.1130	0.1355
98	0.660	-0.107	542.3	5.989E+00	7.675E-03	9.241E-03	0.1901	0.2289
96	0.660	0.107	555.9	9.742E+00	1.270E-02	1.535E-02	0.3146	0.3802
97	0.660	0.250	541.0	3.702E+00	4.736E-03	5.701E-03	0.1173	0.1412
60	0.660	0.400	551.3	4.417E+00	5.726E-03	6.912E-03	0.1418	0.1712
65	0.700	0.500	570.3	4.813E+00	6.397E-03	7.761E-03	0.1584	0.1922
99	0.750	0.178	551.7	8.665E+00	1.124E-02	1.357E-02	0.2784	0.3360
100	0.755	0.400	564.5	4.649E+00	6.133E-03	7.429E-03	0.1519	0.1840
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

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ORBITER BOUNDARY LAYER
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PAGE 1

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 13:08:57
DATE RECORDED: 8-JUN-95
TIME RECORDED: 18:58:15
000011060

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
62	S5R 9	G-3	29-0	7.99	576.4	1323.67	30.00	7.94	37.94	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.059	2.657	3882.	5.078E-05	7.905E-08	2.4936E+06	4.692E+06	4.039E-02	0.377

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	584.6	9.399E+00	1.272E-02	1.549E-02	0.3149	0.3836
6	0.060	0.000	570.5	6.947E+00	9.224E-03	1.119E-02	0.2284	0.2771
7	0.080	0.000	560.1	5.651E+00	7.401E-03	8.953E-03	0.1833	0.2217
8	0.100	0.000	554.0	5.351E+00	6.952E-03	8.396E-03	0.1722	0.2079
10	0.150	0.000	538.0	4.401E+00	5.602E-03	6.736E-03	0.1387	0.1668
16	0.192	0.000	525.1	3.847E+00	4.818E-03	5.775E-03	0.1193	0.1430
20	0.250	0.000	520.8	3.845E+00	4.789E-03	5.735E-03	0.1186	0.1420
23	0.300	0.000	515.3	3.510E+00	4.341E-03	5.191E-03	0.1075	0.1285
30	0.350	0.000	512.1	3.247E+00	4.001E-03	4.780E-03	0.0991	0.1184
31	0.400	0.000	525.3	6.444E+00	8.072E-03	9.676E-03	0.1999	0.2396
33	0.450	0.000	533.3	7.685E+00	9.723E-03	1.168E-02	0.2408	0.2892
34	0.500	0.000	541.8	9.440E+00	1.207E-02	1.453E-02	0.2990	0.3599
37	0.550	0.000	543.9	9.353E+00	1.199E-02	1.445E-02	0.2970	0.3577
38	0.600	0.000	552.0	9.636E+00	1.249E-02	1.507E-02	0.3092	0.3733
40	0.650	0.000	561.9	9.396E+00	1.234E-02	1.493E-02	0.3054	0.3697
41	0.700	0.000	564.9	9.043E+00	1.192E-02	1.444E-02	0.2951	0.3575
43	0.750	0.000	559.6	8.644E+00	1.131E-02	1.368E-02	0.2801	0.3388
46	0.850	0.000	562.3	8.776E+00	1.153E-02	1.395E-02	0.2854	0.3455
49	0.950	0.000	553.8	6.837E+00	8.881E-03	1.072E-02	0.2199	0.2656
86	0.125	0.055	549.9	5.421E+00	7.005E-03	8.451E-03	0.1735	0.2093
11	0.150	0.091	537.1	5.035E+00	6.401E-03	7.696E-03	0.1585	0.1906
17	0.192	0.107	528.0	4.619E+00	5.805E-03	6.963E-03	0.1437	0.1724
87	0.300	-0.106	515.0	4.259E+00	5.267E-03	6.298E-03	0.1304	0.1559
88	0.300	0.061	518.7	3.804E+00	4.726E-03	5.657E-03	0.1170	0.1401
89	0.300	0.122	520.1	4.578E+00	5.697E-03	6.820E-03	0.1411	0.1689
24	0.300	0.160	518.1	4.723E+00	5.863E-03	7.016E-03	0.1452	0.1737
25	0.300	0.221	516.6	4.666E+00	5.781E-03	6.915E-03	0.1431	0.1712
90	0.400	-0.107	508.6	3.467E+00	4.254E-03	5.079E-03	0.1053	0.1258
32	0.400	0.107	509.9	3.284E+00	4.035E-03	4.819E-03	0.0999	0.1193
52	0.400	0.250	511.8	4.104E+00	5.054E-03	6.039E-03	0.1252	0.1495
91	0.425	0.061	510.9	3.209E+00	3.949E-03	4.717E-03	0.0978	0.1168
92	0.425	0.178	511.4	3.853E+00	4.743E-03	5.666E-03	0.1174	0.1403
93	0.500	-0.107	513.2	2.973E+00	3.668E-03	4.384E-03	0.0908	0.1086
35	0.500	0.107	512.7	2.774E+00	3.420E-03	4.087E-03	0.0847	0.1012
94	0.500	0.178	516.4	3.664E+00	4.538E-03	5.428E-03	0.1124	0.1344
53	0.500	0.250	517.1	3.905E+00	4.842E-03	5.792E-03	0.1199	0.1434
95	0.600	-0.250	527.3	3.323E+00	4.173E-03	5.005E-03	0.1033	0.1239
39	0.600	0.107	536.9	4.902E+00	6.231E-03	7.491E-03	0.1543	0.1855

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:08:57
DATE RECORDED: 8-JUN-95
TIME RECORDED: 18:58:15
00001106I

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
62	S5R 9	G-3	29-0	7.99	576.4	1323.67	30.00	7.94	37.94	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.059	2.657	3882.	5.078E-05	7.905E-08	2.4936E+06	4.692E+06	4.039E-02	0.377

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	531.9	3.390E+00	4.281E-03	5.140E-03	0.1060	0.1273
98	0.660	-0.107	549.3	5.323E+00	6.874E-03	8.291E-03	0.1702	0.2053
96	0.660	0.107	564.4	9.165E+00	1.207E-02	1.462E-02	0.2989	0.3620
97	0.660	0.250	549.6	3.396E+00	4.387E-03	5.292E-03	0.1086	0.1310
60	0.660	0.400	562.9	4.548E+00	5.978E-03	7.237E-03	0.1480	0.1792
65	0.700	0.500	582.4	4.735E+00	6.388E-03	7.777E-03	0.1582	0.1926
99	0.750	0.178	562.4	7.628E+00	1.002E-02	1.213E-02	0.2481	0.3003
100	0.755	0.400	577.7	4.440E+00	5.952E-03	7.236E-03	0.1474	0.1792
101	0.800	-0.250	554.5	5.474E+00	7.117E-03	8.596E-03	0.1762	0.2129
45	0.800	0.107	561.9	8.803E+00	1.156E-02	1.399E-02	0.2861	0.3463
56	0.800	0.250	561.1	6.441E+00	8.446E-03	1.022E-02	0.2091	0.2531
66	0.800	0.500	592.4	4.593E+00	6.281E-03	7.670E-03	0.1555	0.1899
70	0.800	0.600	609.0	4.268E+00	5.972E-03	7.330E-03	0.1479	0.1815
75	0.800	0.750	618.2	4.009E+00	5.683E-03	6.995E-03	0.1407	0.1732
102	0.886	0.732	614.1	4.399E+00	6.199E-03	7.621E-03	0.1535	0.1887
103	0.900	-0.107	550.8	7.483E+00	9.682E-03	1.168E-02	0.2397	0.2893
57	0.900	0.250	564.2	7.901E+00	1.040E-02	1.260E-02	0.2576	0.3120

RUN 62

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:09.00
DATE RECORDED: 8-JUN-95
TIME RECORDED: 19:00:43
00001106?

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
63	S5R11	G-3	29-O	7.99	576.8	1321.67	30.00	4.94	34.94	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.1	0.059	2.658	3879.	5.088E-05	7.892E-08	2.5011E+06	4.706E+06	4.039E-02	0.377

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	579.8	8.872E+00	1.196E-02	1.455E-02	0.2961	0.3603
6	0.060	0.000	565.7	6.518E+00	8.622E-03	1.045E-02	0.2135	0.2587
7	0.080	0.000	554.0	5.264E+00	6.858E-03	8.284E-03	0.1698	0.2051
8	0.100	0.000	547.0	4.993E+00	6.445E-03	7.771E-03	0.1596	0.1924
10	0.150	0.000	531.1	3.906E+00	4.940E-03	5.932E-03	0.1223	0.1469
16	0.192	0.000	518.1	3.560E+00	4.430E-03	5.302E-03	0.1097	0.1313
20	0.250	0.000	515.9	3.405E+00	4.226E-03	5.055E-03	0.1046	0.1252
23	0.300	0.000	513.4	3.096E+00	3.831E-03	4.580E-03	0.0949	0.1134
30	0.350	0.000	513.6	2.921E+00	3.615E-03	4.322E-03	0.0895	0.1070
31	0.400	0.000	527.0	5.920E+00	7.449E-03	8.935E-03	0.1844	0.2212
33	0.450	0.000	536.9	7.674E+00	9.778E-03	1.176E-02	0.2421	0.2912
34	0.500	0.000	543.6	8.945E+00	1.150E-02	1.385E-02	0.2847	0.3429
37	0.550	0.000	547.3	8.803E+00	1.137E-02	1.371E-02	0.2815	0.3394
38	0.600	0.000	555.0	9.044E+00	1.180E-02	1.425E-02	0.2921	0.3529
40	0.650	0.000	564.0	8.844E+00	1.167E-02	1.414E-02	0.2890	0.3501
41	0.700	0.000	572.7	8.384E+00	1.119E-02	1.359E-02	0.2772	0.3365
43	0.750	0.000	569.7	8.027E+00	1.068E-02	1.295E-02	0.2643	0.3207
46	0.850	0.000	570.6	8.085E+00	1.076E-02	1.306E-02	0.2666	0.3235
49	0.950	0.000	558.7	6.088E+00	7.980E-03	9.652E-03	0.1976	0.2390
86	0.125	0.055	541.0	5.039E+00	6.454E-03	7.770E-03	0.1598	0.1924
11	0.150	0.091	528.2	4.744E+00	5.978E-03	7.173E-03	0.1480	0.1776
17	0.192	0.107	521.5	4.265E+00	5.330E-03	6.385E-03	0.1320	0.1581
87	0.300	-0.106	513.9	3.962E+00	4.905E-03	5.865E-03	0.1215	0.1452
88	0.300	0.061	516.9	3.357E+00	4.171E-03	4.990E-03	0.1033	0.1236
89	0.300	0.122	517.8	4.116E+00	5.121E-03	6.128E-03	0.1268	0.1517
24	0.300	0.160	515.1	4.291E+00	5.320E-03	6.363E-03	0.1317	0.1575
25	0.300	0.221	514.2	4.427E+00	5.483E-03	6.556E-03	0.1358	0.1623
90	0.400	-0.107	512.2	3.100E+00	3.830E-03	4.577E-03	0.0948	0.1133
32	0.400	0.107	512.0	2.940E+00	3.632E-03	4.340E-03	0.0899	0.1075
52	0.400	0.250	513.1	3.839E+00	4.748E-03	5.675E-03	0.1176	0.1405
91	0.425	0.061	514.0	2.760E+00	3.417E-03	4.086E-03	0.0846	0.1012
92	0.425	0.178	513.2	3.476E+00	4.299E-03	5.139E-03	0.1065	0.1273
93	0.500	-0.107	516.8	2.626E+00	3.263E-03	3.904E-03	0.0808	0.0967
35	0.500	0.107	516.2	2.461E+00	3.056E-03	3.655E-03	0.0757	0.0905
94	0.500	0.178	519.7	3.283E+00	4.093E-03	4.901E-03	0.1013	0.1213
53	0.500	0.250	520.6	3.649E+00	4.555E-03	5.455E-03	0.1128	0.1351
95	0.600	-0.250	532.0	2.898E+00	3.670E-03	4.408E-03	0.0909	0.1091
39	0.600	0.107	538.0	3.740E+00	4.772E-03	5.740E-03	0.1182	0.1421

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:09:00
DATE RECORDED: 8-JUN-95
TIME RECORDED: 19:00:43
00001106

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
63	S5R11	G-3	29-O	7.99	576.8	1321.67	30.00	4.94	34.94	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.1	0.059	2.658	3879.	5.088E-05	7.892E-08	2.5011E+06	4.706E+06	4.039E-02	0.377

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	534.9	2.932E+00	3.727E-03	4.480E-03	0.0923	0.1109
98	0.660	-0.107	552.1	4.544E+00	5.905E-03	7.129E-03	0.1462	0.1765
96	0.660	0.107	565.0	8.050E+00	1.064E-02	1.289E-02	0.2634	0.3192
97	0.660	0.250	552.1	2.810E+00	3.652E-03	4.409E-03	0.0904	0.1092
60	0.660	0.400	566.7	4.079E+00	5.403E-03	6.549E-03	0.1338	0.1622
65	0.700	0.500	588.9	4.447E+00	6.069E-03	7.405E-03	0.1503	0.1834
99	0.750	0.178	568.8	6.110E+00	8.116E-03	9.844E-03	0.2009	0.2437
100	0.755	0.400	585.1	4.010E+00	5.444E-03	6.635E-03	0.1348	0.1643
101	0.800	-0.250	561.4	4.610E+00	6.064E-03	7.340E-03	0.1501	0.1817
45	0.800	0.107	570.6	8.230E+00	1.096E-02	1.330E-02	0.2714	0.3293
56	0.800	0.250	566.6	5.121E+00	6.782E-03	8.221E-03	0.1679	0.2036
66	0.800	0.500	595.1	4.056E+00	5.583E-03	6.825E-03	0.1382	0.1690
70	0.800	0.600	608.8	3.947E+00	5.537E-03	6.797E-03	0.1371	0.1683
75	0.800	0.750	615.2	3.515E+00	4.976E-03	6.121E-03	0.1232	0.1516
102	0.886	0.732	604.3	3.791E+00	5.286E-03	6.479E-03	0.1309	0.1604
103	0.900	-0.107	557.2	6.816E+00	8.916E-03	1.078E-02	0.2208	0.2669
57	0.900	0.250	567.6	6.863E+00	9.101E-03	1.104E-02	0.2254	0.2733

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:09:04
DATE RECORDED: 8-JUN-95
TIME RECORDED: 19:13:01
000011064

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
64	S5R 3	G-3	29-O	7.98	454.0	1321.67	30.00	9.95	39.95	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.4	0.047	2.103	3877.	4.028E-05	7.914E-08	1.9734E+06	3.713E+06	3.592E-02	0.377

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	563.3	8.864E+00	1.169E-02	1.415E-02	0.3254	0.3941
6	0.060	0.000	551.1	6.493E+00	8.427E-03	1.017E-02	0.2346	0.2832
7	0.080	0.000	542.7	5.389E+00	6.918E-03	8.332E-03	0.1926	0.2320
8	0.100	0.000	539.5	5.061E+00	6.470E-03	7.785E-03	0.1801	0.2168
10	0.150	0.000	530.1	4.123E+00	5.208E-03	6.252E-03	0.1450	0.1741
16	0.192	0.000	521.0	3.613E+00	4.513E-03	5.405E-03	0.1257	0.1505
20	0.250	0.000	518.2	3.588E+00	4.466E-03	5.345E-03	0.1243	0.1488
23	0.300	0.000	513.3	3.276E+00	4.053E-03	4.845E-03	0.1128	0.1349
30	0.350	0.000	512.8	3.081E+00	3.809E-03	4.553E-03	0.1060	0.1268
31	0.400	0.000	523.5	5.619E+00	7.040E-03	8.437E-03	0.1960	0.2349
33	0.450	0.000	526.2	5.634E+00	7.082E-03	8.493E-03	0.1972	0.2365
34	0.500	0.000	537.2	7.587E+00	9.672E-03	1.163E-02	0.2693	0.3238
37	0.550	0.000	542.0	8.079E+00	1.036E-02	1.248E-02	0.2885	0.3474
38	0.600	0.000	548.3	8.326E+00	1.077E-02	1.298E-02	0.2997	0.3615
40	0.650	0.000	556.9	8.061E+00	1.054E-02	1.274E-02	0.2935	0.3548
41	0.700	0.000	558.5	7.755E+00	1.016E-02	1.229E-02	0.2829	0.3422
43	0.750	0.000	555.4	7.433E+00	9.701E-03	1.172E-02	0.2701	0.3264
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	538.7	5.087E+00	6.497E-03	7.817E-03	0.1809	0.2176
11	0.150	0.091	529.7	4.749E+00	5.996E-03	7.198E-03	0.1670	0.2004
17	0.192	0.107	526.0	4.309E+00	5.415E-03	6.494E-03	0.1508	0.1808
87	0.300	-0.106	514.3	3.884E+00	4.811E-03	5.752E-03	0.1339	0.1602
88	0.300	0.061	516.9	3.499E+00	4.347E-03	5.201E-03	0.1210	0.1448
89	0.300	0.122	518.5	4.161E+00	5.182E-03	6.202E-03	0.1443	0.1727
24	0.300	0.160	516.8	4.372E+00	5.432E-03	6.499E-03	0.1512	0.1810
25	0.300	0.221	516.4	4.309E+00	5.351E-03	6.402E-03	0.1490	0.1782
90	0.400	-0.107	512.1	3.189E+00	3.939E-03	4.708E-03	0.1097	0.1311
32	0.400	0.107	511.9	3.086E+00	3.810E-03	4.554E-03	0.1061	0.1268
52	0.400	0.250	515.6	3.776E+00	4.684E-03	5.603E-03	0.1304	0.1560
91	0.425	0.061	513.1	2.886E+00	3.569E-03	4.266E-03	0.0994	0.1188
92	0.425	0.178	514.1	3.520E+00	4.359E-03	5.212E-03	0.1214	0.1451
93	0.500	-0.107	517.1	2.695E+00	3.350E-03	4.009E-03	0.0933	0.1116
35	0.500	0.107	515.2	2.521E+00	3.125E-03	3.738E-03	0.0870	0.1041
94	0.500	0.178	519.6	3.272E+00	4.080E-03	4.885E-03	0.1136	0.1360
53	0.500	0.250	521.5	3.548E+00	4.434E-03	5.311E-03	0.1234	0.1479
95	0.600	-0.250	531.4	2.897E+00	3.666E-03	4.402E-03	0.1021	0.1226
39	0.600	0.107	534.1	3.475E+00	4.412E-03	5.302E-03	0.1228	0.1476

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:09:04
DATE RECORDED: 8-JUN-95
TIME RECORDED: 19:13:01
000011065

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
64	S5R 3	G-3	29-O	7.98	454.0	1321.67	30.00	9.95	39.95	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.4	0.047	2.103	3877.	4.028E-05	7.914E-08	1.9734E+06	3.713E+06	3.592E-02	0.377

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	533.7	2.871E+00	3.643E-03	4.378E-03	0.1014	0.1219
98	0.660	-0.107	543.9	3.188E+00	4.099E-03	4.939E-03	0.1141	0.1375
96	0.660	0.107	556.9	7.366E+00	9.631E-03	1.164E-02	0.2682	0.3242
97	0.660	0.250	547.8	2.584E+00	3.339E-03	4.027E-03	0.0930	0.1121
60	0.660	0.400	558.2	3.520E+00	4.611E-03	5.576E-03	0.1284	0.1553
65	0.700	0.500	569.5	4.053E+00	5.388E-03	6.537E-03	0.1500	0.1820
99	0.750	0.178	554.8	5.190E+00	6.769E-03	8.178E-03	0.1885	0.2277
100	0.755	0.400	564.6	2.831E+00	3.739E-03	4.530E-03	0.1041	0.1261
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 13:09 08
DATE RECORDED: 8-JUN 95
TIME RECORDED: 19:15 08
000011066

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
65	S5R13	G-3	29-O	7.98	458.4	1320.67	30.00	7.93	37.93	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.3	0.048	2.123	3876.	4.069E-05	7.907E-08	1.9948E+06	3.754E+06	3.608E-02	0.383

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	578.2	8.374E+00	1.128E-02	1.372E-02	0.3126	0.3802
6	0.060	0.000	564.8	6.212E+00	8.218E-03	9.958E-03	0.2278	0.2760
7	0.080	0.000	554.2	5.170E+00	6.746E-03	8.150E-03	0.1870	0.2259
8	0.100	0.000	547.8	4.792E+00	6.201E-03	7.479E-03	0.1719	0.2073
10	0.150	0.000	535.3	3.801E+00	4.840E-03	5.818E-03	0.1341	0.1613
16	0.192	0.000	525.1	3.399E+00	4.272E-03	5.122E-03	0.1184	0.1420
20	0.250	0.000	520.2	3.411E+00	4.262E-03	5.104E-03	0.1181	0.1414
23	0.300	0.000	517.2	3.146E+00	3.916E-03	4.686E-03	0.1085	0.1299
30	0.350	0.000	518.7	2.888E+00	3.601E-03	4.311E-03	0.0998	0.1195
31	0.400	0.000	532.2	5.371E+00	6.812E-03	8.183E-03	0.1888	0.2268
33	0.450	0.000	535.5	5.442E+00	6.931E-03	8.332E-03	0.1921	0.2309
34	0.500	0.000	545.3	7.496E+00	9.668E-03	1.165E-02	0.2679	0.3230
37	0.550	0.000	549.6	7.911E+00	1.026E-02	1.238E-02	0.2843	0.3431
38	0.600	0.000	556.8	8.021E+00	1.050E-02	1.270E-02	0.2910	0.3519
40	0.650	0.000	566.2	7.777E+00	1.031E-02	1.249E-02	0.2857	0.3463
41	0.700	0.000	571.9	7.472E+00	9.978E-03	1.211E-02	0.2765	0.3358
43	0.750	0.000	569.3	7.118E+00	9.473E-03	1.149E-02	0.2625	0.3185
46	0.850	0.000	574.0	7.142E+00	9.564E-03	1.162E-02	0.2651	0.3220
49	0.950	0.000	567.7	5.563E+00	7.388E-03	8.959E-03	0.2048	0.2483
86	0.125	0.055	543.5	4.821E+00	6.203E-03	7.473E-03	0.1719	0.2071
11	0.150	0.091	533.0	4.552E+00	5.778E-03	6.942E-03	0.1601	0.1924
17	0.192	0.107	526.9	4.089E+00	5.152E-03	6.180E-03	0.1428	0.1713
87	0.300	-0.106	519.7	3.729E+00	4.656E-03	5.575E-03	0.1290	0.1545
88	0.300	0.061	519.6	3.305E+00	4.126E-03	4.940E-03	0.1143	0.1369
89	0.300	0.122	520.8	3.977E+00	4.972E-03	5.956E-03	0.1378	0.1651
24	0.300	0.160	518.5	4.148E+00	5.171E-03	6.190E-03	0.1433	0.1716
25	0.300	0.221	516.8	4.290E+00	5.337E-03	6.386E-03	0.1479	0.1770
90	0.400	-0.107	520.2	2.904E+00	3.628E-03	4.345E-03	0.1006	0.1204
32	0.400	0.107	518.9	2.923E+00	3.646E-03	4.365E-03	0.1010	0.1210
52	0.400	0.250	518.3	3.620E+00	4.512E-03	5.401E-03	0.1250	0.1497
91	0.425	0.061	521.3	2.674E+00	3.345E-03	4.008E-03	0.0927	0.1111
92	0.425	0.178	520.0	3.334E+00	4.164E-03	4.987E-03	0.1154	0.1382
93	0.500	-0.107	523.9	2.560E+00	3.214E-03	3.852E-03	0.0891	0.1068
35	0.500	0.107	523.2	2.351E+00	2.948E-03	3.533E-03	0.0817	0.0979
94	0.500	0.178	525.9	3.105E+00	3.907E-03	4.686E-03	0.1083	0.1299
53	0.500	0.250	525.8	3.332E+00	4.192E-03	5.028E-03	0.1162	0.1393
95	0.600	-0.250	537.3	2.713E+00	3.463E-03	4.165E-03	0.0960	0.1154
39	0.600	0.107	540.8	2.981E+00	3.822E-03	4.601E-03	0.1059	0.1275

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 13:09 08
DATE RECORDED: 8-JUN 95
TIME RECORDED: 19:15 08
00001100

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
65	S5R13	G-3	29-0	7.98	458.4	1320.67	30.00	7.93	37.93	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.3	0.048	2.123	3876.	4.069E-05	7.907E-08	1.9948E+06	3.754E+06	3.608E-02	0.383

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	539.5	2.750E+00	3.520E-03	4.237E-03	0.0976	0.1174
98	0.660	-0.107	553.2	2.945E+00	3.837E-03	4.635E-03	0.1063	0.1284
96	0.660	0.107	566.3	6.708E+00	8.892E-03	1.078E-02	0.2465	0.2988
97	0.660	0.250	554.9	2.407E+00	3.143E-03	3.798E-03	0.0871	0.1053
60	0.660	0.400	567.0	3.633E+00	4.821E-03	5.845E-03	0.1336	0.1620
65	0.700	0.500	582.0	3.872E+00	5.242E-03	6.383E-03	0.1453	0.1769
99	0.750	0.178	566.1	4.556E+00	6.038E-03	7.319E-03	0.1673	0.2028
100	0.755	0.400	578.0	2.823E+00	3.801E-03	4.623E-03	0.1053	0.1281
101	0.800	-0.250	561.5	2.996E+00	3.947E-03	4.778E-03	0.1094	0.1324
45	0.800	0.107	572.1	7.210E+00	9.632E-03	1.170E-02	0.2670	0.3242
56	0.800	0.250	565.0	3.353E+00	4.437E-03	5.377E-03	0.1230	0.1490
66	0.800	0.500	589.8	2.984E+00	4.083E-03	4.984E-03	0.1132	0.1381
70	0.800	0.600	603.8	3.434E+00	4.791E-03	5.872E-03	0.1328	0.1628
75	0.800	0.750	608.5	3.247E+00	4.560E-03	5.598E-03	0.1264	0.1552
102	0.886	0.732	602.1	3.614E+00	5.030E-03	6.162E-03	0.1394	0.1708
103	0.900	-0.107	563.7	6.041E+00	7.980E-03	9.666E-03	0.2212	0.2679
57	0.900	0.250	570.8	5.150E+00	6.867E-03	8.335E-03	0.1903	0.2310

RUN 65

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:09:11
DATE RECORDED: 8-JUN-95
TIME RECORDED: 19:18:03
00001106B

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
66	S5R15	G-3	29-0	7.98	461.1	1320.67	30.00	4.94	34.94	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.3	0.048	2.135	3876.	4.093E-05	7.906E-08	2.0064E+06	3.775E+06	3.619E-02	0.381

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	571.9	8.010E+00	1.070E-02	1.299E-02	0.2956	0.3589
6	0.060	0.000	559.2	5.887E+00	7.731E-03	9.353E-03	0.2136	0.2585
7	0.080	0.000	548.4	4.855E+00	6.286E-03	7.583E-03	0.1737	0.2096
8	0.100	0.000	541.3	4.530E+00	5.812E-03	6.998E-03	0.1606	0.1934
10	0.150	0.000	526.7	3.596E+00	4.529E-03	5.433E-03	0.1252	0.1501
16	0.192	0.000	516.8	3.252E+00	4.045E-03	4.841E-03	0.1118	0.1338
20	0.250	0.000	518.0	3.025E+00	3.769E-03	4.511E-03	0.1042	0.1247
23	0.300	0.000	516.7	2.823E+00	3.511E-03	4.202E-03	0.0970	0.1161
30	0.350	0.000	517.6	2.605E+00	3.244E-03	3.883E-03	0.0896	0.1073
31	0.400	0.000	530.7	5.018E+00	6.352E-03	7.627E-03	0.1755	0.2108
33	0.450	0.000	535.8	5.418E+00	6.903E-03	8.299E-03	0.1908	0.2293
34	0.500	0.000	546.0	7.308E+00	9.435E-03	1.137E-02	0.2607	0.3143
37	0.550	0.000	550.5	7.429E+00	9.645E-03	1.164E-02	0.2665	0.3217
38	0.600	0.000	557.7	7.626E+00	9.996E-03	1.209E-02	0.2762	0.3341
40	0.650	0.000	565.5	7.409E+00	9.811E-03	1.189E-02	0.2711	0.3286
41	0.700	0.000	575.2	7.094E+00	9.517E-03	1.157E-02	0.2630	0.3196
43	0.750	0.000	574.1	6.714E+00	8.992E-03	1.092E-02	0.2485	0.3019
46	0.850	0.000	577.1	6.774E+00	9.111E-03	1.108E-02	0.2518	0.3062
49	0.950	0.000	569.9	5.117E+00	6.815E-03	8.270E-03	0.1883	0.2285
86	0.125	0.055	535.1	4.482E+00	5.705E-03	6.858E-03	0.1577	0.1895
11	0.150	0.091	525.0	4.314E+00	5.422E-03	6.501E-03	0.1498	0.1797
17	0.192	0.107	521.2	3.866E+00	4.836E-03	5.793E-03	0.1336	0.1601
87	0.300	-0.106	518.8	3.496E+00	4.360E-03	5.219E-03	0.1205	0.1442
88	0.300	0.061	519.1	3.017E+00	3.764E-03	4.506E-03	0.1040	0.1245
89	0.300	0.122	520.3	3.658E+00	4.571E-03	5.474E-03	0.1263	0.1513
24	0.300	0.160	518.2	3.781E+00	4.712E-03	5.640E-03	0.1302	0.1559
25	0.300	0.221	517.7	3.961E+00	4.933E-03	5.904E-03	0.1363	0.1632
90	0.400	-0.107	520.4	2.686E+00	3.357E-03	4.020E-03	0.0928	0.1111
32	0.400	0.107	517.8	2.655E+00	3.307E-03	3.958E-03	0.0914	0.1094
52	0.400	0.250	518.4	3.460E+00	4.312E-03	5.162E-03	0.1192	0.1426
91	0.425	0.061	520.7	2.492E+00	3.116E-03	3.732E-03	0.0861	0.1031
92	0.425	0.178	519.4	3.105E+00	3.875E-03	4.639E-03	0.1071	0.1282
93	0.500	-0.107	525.4	2.300E+00	2.892E-03	3.468E-03	0.0799	0.0958
35	0.500	0.107	523.6	2.146E+00	2.693E-03	3.227E-03	0.0744	0.0892
94	0.500	0.178	526.2	2.906E+00	3.658E-03	4.387E-03	0.1011	0.1212
53	0.500	0.250	526.6	3.177E+00	4.001E-03	4.800E-03	0.1106	0.1326
95	0.600	-0.250	539.8	2.441E+00	3.126E-03	3.762E-03	0.0864	0.1040
39	0.600	0.107	541.5	2.487E+00	3.191E-03	3.843E-03	0.0882	0.1062

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:09:12
DATE RECORDED: 8-JUN-95
TIME RECORDED: 19:18:03
00001106

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
66	S5R15	G-3	• 29-O	7.98	461.1	1320.67	30.00	4.94	34.94	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.3	0.048	2.135	3876.	4.093E-05	7.906E-08	2.0064E+06	3.775E+06	3.619E-02	0.381

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	540.2	2.480E+00	3.177E-03	3.825E-03	0.0878	0.1057
98	0.660	-0.107	552.3	2.593E+00	3.375E-03	4.075E-03	0.0933	0.1126
96	0.660	0.107	563.2	5.765E+00	7.611E-03	9.219E-03	0.2103	0.2548
97	0.660	0.250	553.6	2.079E+00	2.710E-03	3.274E-03	0.0749	0.0905
60	0.660	0.400	564.8	3.480E+00	4.604E-03	5.579E-03	0.1272	0.1542
65	0.700	0.500	584.7	3.903E+00	5.303E-03	6.463E-03	0.1465	0.1786
99	0.750	0.178	569.6	3.540E+00	4.713E-03	5.719E-03	0.1302	0.1580
100	0.755	0.400	581.9	2.780E+00	3.763E-03	4.582E-03	0.1040	0.1266
101	0.800	-0.250	565.2	2.618E+00	3.465E-03	4.199E-03	0.0957	0.1160
45	0.800	0.107	576.2	6.847E+00	9.198E-03	1.118E-02	0.2542	0.3090
56	0.800	0.250	567.6	2.590E+00	3.439E-03	4.170E-03	0.0950	0.1152
66	0.800	0.500	589.1	2.804E+00	3.833E-03	4.678E-03	0.1059	0.1293
70	0.800	0.600	600.3	3.407E+00	4.729E-03	5.791E-03	0.1307	0.1600
75	0.800	0.750	602.1	3.136E+00	4.365E-03	5.348E-03	0.1206	0.1478
102	0.886	0.732	593.4	3.308E+00	4.548E-03	5.558E-03	0.1257	0.1536
103	0.900	-0.107	565.9	5.609E+00	7.431E-03	9.007E-03	0.2054	0.2489
57	0.900	0.250	570.1	4.234E+00	5.642E-03	6.847E-03	0.1559	0.1892

RUN 66

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:09:15
DATE RECORDED: 8-JUN-95
TIME RECORDED: 19:31:03
000011070

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
67	S5R 5	G-3	29-0	7.96	329.1	1290.67	30.00	9.98	39.98	-0.01

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.2	0.035	1.536	3827.	3.021E-05	7.744E-08	1.4929E+06	2.809E+06	3.058E-02	0.395

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	558.9	7.254E+00	9.912E-03	1.203E-02	0.3242	0.3936
6	0.060	0.000	549.1	5.383E+00	7.260E-03	8.789E-03	0.2374	0.2874
7	0.080	0.000	542.7	4.445E+00	5.943E-03	7.182E-03	0.1943	0.2349
8	0.100	0.000	540.1	4.130E+00	5.503E-03	6.645E-03	0.1800	0.2173
10	0.150	0.000	532.7	3.306E+00	4.362E-03	5.257E-03	0.1427	0.1719
16	0.192	0.000	526.3	2.941E+00	3.848E-03	4.630E-03	0.1258	0.1514
20	0.250	0.000	524.4	2.864E+00	3.738E-03	4.495E-03	0.1222	0.1470
23	0.300	0.000	521.4	2.666E+00	3.466E-03	4.164E-03	0.1133	0.1362
30	0.350	0.000	521.5	2.523E+00	3.280E-03	3.942E-03	0.1073	0.1289
31	0.400	0.000	530.1	4.375E+00	5.752E-03	6.927E-03	0.1881	0.2265
33	0.450	0.000	532.2	4.258E+00	5.614E-03	6.765E-03	0.1836	0.2212
34	0.500	0.000	541.0	5.678E+00	7.574E-03	9.149E-03	0.2477	0.2992
37	0.550	0.000	545.4	5.957E+00	7.994E-03	9.668E-03	0.2614	0.3162
38	0.600	0.000	551.8	6.220E+00	8.419E-03	1.020E-02	0.2753	0.3336
40	0.650	0.000	558.6	6.023E+00	8.228E-03	9.989E-03	0.2691	0.3267
41	0.700	0.000	561.0	5.770E+00	7.908E-03	9.607E-03	0.2586	0.3142
43	0.750	0.000	558.8	5.488E+00	7.499E-03	9.105E-03	0.2453	0.2978
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	539.4	4.182E+00	5.566E-03	6.721E-03	0.1820	0.2198
11	0.150	0.091	532.8	3.839E+00	5.066E-03	6.106E-03	0.1657	0.1997
17	0.192	0.107	530.2	3.542E+00	4.658E-03	5.610E-03	0.1523	0.1835
87	0.300	-0.106	522.4	3.144E+00	4.093E-03	4.919E-03	0.1338	0.1609
88	0.300	0.061	524.0	2.840E+00	3.704E-03	4.454E-03	0.1211	0.1457
89	0.300	0.122	525.4	3.384E+00	4.422E-03	5.319E-03	0.1446	0.1740
24	0.300	0.160	524.4	3.523E+00	4.597E-03	5.528E-03	0.1503	0.1808
25	0.300	0.221	524.3	3.553E+00	4.637E-03	5.576E-03	0.1516	0.1823
90	0.400	-0.107	522.0	2.592E+00	3.372E-03	4.053E-03	0.1103	0.1325
32	0.400	0.107	521.8	2.498E+00	3.249E-03	3.904E-03	0.1063	0.1277
52	0.400	0.250	524.4	3.082E+00	4.022E-03	4.837E-03	0.1315	0.1582
91	0.425	0.061	523.1	2.344E+00	3.054E-03	3.671E-03	0.0999	0.1201
92	0.425	0.178	524.0	2.875E+00	3.750E-03	4.509E-03	0.1226	0.1474
93	0.500	-0.107	527.0	2.185E+00	2.862E-03	3.444E-03	0.0936	0.1126
35	0.500	0.107	525.7	2.004E+00	2.620E-03	3.152E-03	0.0857	0.1031
94	0.500	0.178	528.9	2.687E+00	3.528E-03	4.248E-03	0.1154	0.1389
53	0.500	0.250	530.0	2.871E+00	3.775E-03	4.546E-03	0.1234	0.1487
95	0.600	-0.250	541.2	2.304E+00	3.074E-03	3.714E-03	0.1005	0.1214
39	0.600	0.107	540.6	2.176E+00	2.901E-03	3.504E-03	0.0949	0.1146

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:09:15
DATE RECORDED: 8-JUN-95
TIME RECORDED: 19:31:03
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RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
67	S5R 5	G-3	29-0	7.96	329.1	1290.67	30.00	9.98	39.98	-0.01

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.2	0.035	1.536	3827.	3.021E-05	7.744E-08	1.4929E+06	2.809E+06	3.058E-02	0.395

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	541.9	2.326E+00	3.107E-03	3.754E-03	0.1016	0.1228
98	0.660	-0.107	549.2	2.091E+00	2.820E-03	3.414E-03	0.0922	0.1117
96	0.660	0.107	555.6	4.214E+00	5.733E-03	6.954E-03	0.1875	0.2274
97	0.660	0.250	552.2	1.900E+00	2.572E-03	3.117E-03	0.0841	0.1019
60	0.660	0.400	560.0	2.799E+00	3.831E-03	4.653E-03	0.1253	0.1522
65	0.700	0.500	569.0	3.280E+00	4.545E-03	5.535E-03	0.1487	0.1810
99	0.750	0.178	555.8	2.135E+00	2.906E-03	3.525E-03	0.0950	0.1153
100	0.755	0.400	564.2	1.833E+00	2.524E-03	3.069E-03	0.0825	0.1004
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-[illegible]
TIME COMPUTED: 13 09 19
DATE RECORDED: 8-JUN-95
TIME RECORDED: 19.33.18
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RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
68	S5R17	G-3	29-0	7.96	330.3	1289.67	30.00	7.94	37.94	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.2	0.035	1.542	3825.	3.034E-05	7.737E-08	1.5001E+06	2.823E+06	3.063E-02	0.395

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	569.7	6.834E+00	9.493E-03	1.156E-02	0.3099	0.3776
6	0.060	0.000	558.3	5.072E+00	6.935E-03	8.419E-03	0.2264	0.2749
7	0.080	0.000	548.9	4.217E+00	5.692E-03	6.893E-03	0.1859	0.2250
8	0.100	0.000	543.1	3.917E+00	5.247E-03	6.343E-03	0.1713	0.2071
10	0.150	0.000	531.1	3.087E+00	4.069E-03	4.903E-03	0.1329	0.1601
16	0.192	0.000	522.5	2.842E+00	3.704E-03	4.452E-03	0.1209	0.1454
20	0.250	0.000	519.7	2.791E+00	3.625E-03	4.354E-03	0.1183	0.1422
23	0.300	0.000	520.0	2.521E+00	3.275E-03	3.934E-03	0.1069	0.1285
30	0.350	0.000	523.0	2.365E+00	3.085E-03	3.708E-03	0.1007	0.1211
31	0.400	0.000	533.3	4.039E+00	5.340E-03	6.438E-03	0.1744	0.2102
33	0.450	0.000	536.1	3.954E+00	5.247E-03	6.331E-03	0.1713	0.2067
34	0.500	0.000	543.9	5.526E+00	7.410E-03	8.959E-03	0.2419	0.2925
37	0.550	0.000	548.4	5.809E+00	7.837E-03	9.488E-03	0.2559	0.3098
38	0.600	0.000	555.3	6.027E+00	8.207E-03	9.955E-03	0.2680	0.3250
40	0.650	0.000	563.9	5.770E+00	7.950E-03	9.668E-03	0.2596	0.3157
41	0.700	0.000	569.0	5.534E+00	7.679E-03	9.352E-03	0.2507	0.3054
43	0.750	0.000	567.0	5.287E+00	7.315E-03	8.904E-03	0.2388	0.2907
46	0.850	0.000	572.3	5.349E+00	7.456E-03	9.091E-03	0.2435	0.2968
49	0.950	0.000	568.5	4.076E+00	5.651E-03	6.882E-03	0.1845	0.2247
86	0.125	0.055	538.5	3.975E+00	5.292E-03	6.389E-03	0.1728	0.2086
11	0.150	0.091	528.9	3.773E+00	4.959E-03	5.971E-03	0.1619	0.1950
17	0.192	0.107	525.7	3.378E+00	4.422E-03	5.320E-03	0.1444	0.1737
87	0.300	-0.106	522.4	2.953E+00	3.848E-03	4.626E-03	0.1256	0.1510
88	0.300	0.061	522.2	2.671E+00	3.480E-03	4.182E-03	0.1136	0.1366
89	0.300	0.122	523.6	3.140E+00	4.099E-03	4.928E-03	0.1338	0.1609
24	0.300	0.160	522.2	3.261E+00	4.249E-03	5.107E-03	0.1387	0.1667
25	0.300	0.221	522.1	3.396E+00	4.425E-03	5.319E-03	0.1445	0.1737
90	0.400	-0.107	526.3	2.385E+00	3.124E-03	3.759E-03	0.1020	0.1227
32	0.400	0.107	524.0	2.339E+00	3.054E-03	3.673E-03	0.0997	0.1199
52	0.400	0.250	523.9	2.974E+00	3.884E-03	4.671E-03	0.1268	0.1525
91	0.425	0.061	526.4	2.170E+00	2.843E-03	3.422E-03	0.0928	0.1117
92	0.425	0.178	525.1	2.697E+00	3.528E-03	4.244E-03	0.1152	0.1386
93	0.500	-0.107	530.0	2.044E+00	2.691E-03	3.241E-03	0.0878	0.1058
35	0.500	0.107	528.5	1.935E+00	2.543E-03	3.061E-03	0.0830	0.0999
94	0.500	0.178	530.9	2.535E+00	3.341E-03	4.025E-03	0.1091	0.1314
53	0.500	0.250	530.9	2.723E+00	3.588E-03	4.323E-03	0.1172	0.1412
95	0.600	-0.250	542.8	2.131E+00	2.853E-03	3.448E-03	0.0931	0.1126
39	0.600	0.107	543.1	1.940E+00	2.599E-03	3.141E-03	0.0848	0.1026

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:09:19
DATE RECORDED: 8-JUN-95
TIME RECORDED: 19:33:18
00001107

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
68	S5R17	G-3	29-0	7.96	330.3	1289.67	30.00	7.94	37.94	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.2	0.035	1.542	3825.	3.034E-05	7.737E-08	1.5001E+06	2.823E+06	3.063E-02	0.395

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	542.6	2.090E+00	2.798E-03	3.382E-03	0.0914	0.1104
98	0.660	-0.107	554.6	1.859E+00	2.529E-03	3.068E-03	0.0826	0.1002
96	0.660	0.107	560.7	3.625E+00	4.972E-03	6.041E-03	0.1623	0.1972
97	0.660	0.250	555.1	1.766E+00	2.404E-03	2.916E-03	0.0785	0.0952
60	0.660	0.400	563.2	2.823E+00	3.886E-03	4.725E-03	0.1269	0.1543
65	0.700	0.500	574.3	3.193E+00	4.463E-03	5.444E-03	0.1457	0.1777
99	0.750	0.178	562.1	2.020E+00	2.776E-03	3.374E-03	0.0906	0.1102
100	0.755	0.400	572.4	2.079E+00	2.898E-03	3.534E-03	0.0946	0.1154
101	0.800	-0.250	561.4	1.841E+00	2.529E-03	3.073E-03	0.0826	0.1003
45	0.800	0.107	570.0	5.325E+00	7.399E-03	9.014E-03	0.2416	0.2943
56	0.800	0.250	562.4	1.762E+00	2.423E-03	2.945E-03	0.0791	0.0962
66	0.800	0.500	581.3	2.120E+00	2.993E-03	3.659E-03	0.0977	0.1195
70	0.800	0.600	591.4	2.683E+00	3.842E-03	4.712E-03	0.1254	0.1539
75	0.800	0.750	593.3	2.606E+00	3.742E-03	4.592E-03	0.1222	0.1499
102	0.886	0.732	587.8	2.745E+00	3.911E-03	4.791E-03	0.1277	0.1564
103	0.900	-0.107	563.9	4.232E+00	5.832E-03	7.092E-03	0.1904	0.2316
57	0.900	0.250	566.7	2.392E+00	3.308E-03	4.027E-03	0.1080	0.1315

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL 9[illegible]
TIME COMPUTED: 13:09 [illegible]
DATE RECORDED: 8-JUN 9[illegible]
TIME RECORDED: 19:35 44
000011074

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
69	S5R19	G-3	29-O	7.96	330.3	1288.67	30.00	4.94	34.94	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.1	0.035	1.542	3824.	3.037E-05	7.731E-08	1.5020E+06	2.826E+06	3.062E-02	0.395

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	567.4	6.444E+00	8.935E-03	1.088E-02	0.2918	0.3552
6	0.060	0.000	556.1	4.724E+00	6.449E-03	7.825E-03	0.2106	0.2555
7	0.080	0.000	546.0	3.887E+00	5.234E-03	6.333E-03	0.1709	0.2068
8	0.100	0.000	538.7	3.640E+00	4.854E-03	5.861E-03	0.1585	0.1914
10	0.150	0.000	524.6	2.934E+00	3.840E-03	4.619E-03	0.1254	0.1508
16	0.192	0.000	517.4	2.620E+00	3.397E-03	4.078E-03	0.1109	0.1332
20	0.250	0.000	520.5	2.381E+00	3.100E-03	3.725E-03	0.1012	0.1216
23	0.300	0.000	520.7	2.257E+00	2.939E-03	3.532E-03	0.0960	0.1153
30	0.350	0.000	522.5	2.046E+00	2.670E-03	3.210E-03	0.0872	0.1048
31	0.400	0.000	531.0	3.592E+00	4.741E-03	5.712E-03	0.1548	0.1865
33	0.450	0.000	535.8	3.831E+00	5.088E-03	6.139E-03	0.1661	0.2005
34	0.500	0.000	544.1	5.207E+00	6.993E-03	8.457E-03	0.2284	0.2761
37	0.550	0.000	549.2	5.419E+00	7.329E-03	8.876E-03	0.2393	0.2898
38	0.600	0.000	556.1	5.652E+00	7.715E-03	9.362E-03	0.2519	0.3057
40	0.650	0.000	563.0	5.471E+00	7.539E-03	9.166E-03	0.2462	0.2993
41	0.700	0.000	571.7	5.250E+00	7.322E-03	8.926E-03	0.2391	0.2915
43	0.750	0.000	571.0	4.949E+00	6.896E-03	8.406E-03	0.2252	0.2745
46	0.850	0.000	574.2	4.967E+00	6.952E-03	8.482E-03	0.2270	0.2770
49	0.950	0.000	569.8	3.687E+00	5.129E-03	6.249E-03	0.1675	0.2040
86	0.125	0.055	532.6	3.647E+00	4.824E-03	5.815E-03	0.1575	0.1899
11	0.150	0.091	523.9	3.577E+00	4.677E-03	5.624E-03	0.1527	0.1837
17	0.192	0.107	522.9	3.126E+00	4.082E-03	4.908E-03	0.1333	0.1603
87	0.300	-0.106	522.2	2.777E+00	3.623E-03	4.355E-03	0.1183	0.1422
88	0.300	0.061	523.4	2.359E+00	3.083E-03	3.707E-03	0.1007	0.1210
89	0.300	0.122	524.9	2.811E+00	3.680E-03	4.427E-03	0.1202	0.1446
24	0.300	0.160	523.6	2.941E+00	3.844E-03	4.622E-03	0.1255	0.1509
25	0.300	0.221	524.2	3.152E+00	4.123E-03	4.959E-03	0.1346	0.1619
90	0.400	-0.107	526.0	2.148E+00	2.817E-03	3.389E-03	0.0920	0.1107
32	0.400	0.107	522.7	2.108E+00	2.752E-03	3.308E-03	0.0898	0.1080
52	0.400	0.250	523.4	2.784E+00	3.638E-03	4.375E-03	0.1188	0.1429
91	0.425	0.061	525.2	2.016E+00	2.640E-03	3.176E-03	0.0862	0.1037
92	0.425	0.178	524.0	2.527E+00	3.305E-03	3.975E-03	0.1079	0.1298
93	0.500	-0.107	531.2	1.852E+00	2.446E-03	2.947E-03	0.0799	0.0962
35	0.500	0.107	528.7	1.736E+00	2.284E-03	2.750E-03	0.0746	0.0898
94	0.500	0.178	530.8	2.338E+00	3.085E-03	3.716E-03	0.1007	0.1214
53	0.500	0.250	531.0	2.581E+00	3.407E-03	4.105E-03	0.1112	0.1340
95	0.600	-0.250	544.4	1.963E+00	2.638E-03	3.190E-03	0.0861	0.1042
39	0.600	0.107	543.9	1.728E+00	2.320E-03	2.806E-03	0.0758	0.0916

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:09:23
DATE RECORDED: 8-JUN-95
TIME RECORDED: 19:35:44
00001107

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
69	S5R19	G-3	29-O	7.96	330.3	1288.67	30.00	4.94	34.94	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.1	0.035	1.542	3824.	3.037E-05	7.731E-08	1.5020E+06	2.826E+06	3.062E-02	0.395

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	543.0	1.894E+00	2.540E-03	3.071E-03	0.0829	0.1003
98	0.660	-0.107	554.0	1.644E+00	2.238E-03	2.714E-03	0.0731	0.0886
96	0.660	0.107	558.5	2.885E+00	3.952E-03	4.799E-03	0.1290	0.1567
97	0.660	0.250	553.9	1.575E+00	2.144E-03	2.600E-03	0.0700	0.0849
60	0.660	0.400	562.6	2.740E+00	3.773E-03	4.587E-03	0.1232	0.1498
65	0.700	0.500	577.8	3.176E+00	4.467E-03	5.457E-03	0.1459	0.1782
99	0.750	0.178	565.5	1.614E+00	2.232E-03	2.715E-03	0.0729	0.0887
100	0.755	0.400	576.0	1.974E+00	2.770E-03	3.381E-03	0.0905	0.1104
101	0.800	-0.250	563.9	1.460E+00	2.015E-03	2.451E-03	0.0658	0.0800
45	0.800	0.107	573.4	5.043E+00	7.051E-03	8.600E-03	0.2302	0.2808
56	0.800	0.250	564.9	1.500E+00	2.072E-03	2.521E-03	0.0677	0.0823
66	0.800	0.500	582.3	2.185E+00	3.093E-03	3.783E-03	0.1010	0.1235
70	0.800	0.600	591.4	2.811E+00	4.032E-03	4.946E-03	0.1317	0.1615
75	0.800	0.750	592.7	2.482E+00	3.566E-03	4.377E-03	0.1165	0.1429
102	0.886	0.732	584.4	2.627E+00	3.730E-03	4.565E-03	0.1218	0.1491
103	0.900	-0.107	564.8	3.827E+00	5.287E-03	6.432E-03	0.1726	0.2100
57	0.900	0.250	565.5	1.867E+00	2.581E-03	3.141E-03	0.0843	0.1026

ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
3E 1

DATE RECORDED: 8-JUN-
TIME RECORDED: 19:54:45
0000110/6

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
70	S5R 7	G-3	29-O	7.93	206.7	1242.67	30.00	9.95	39.95	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.0	0.022	0.977	3749	2.002E-05	7.480E-08	1.0033E+06	1.888E+06	2.423E-02	0.416

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	550.3	5.365E+00	7.748E-03	9.443E-03	0.3198	0.3898
6	0.060	0.000	542.9	3.959E+00	5.658E-03	6.880E-03	0.2335	0.2840
7	0.080	0.000	537.7	3.329E+00	4.723E-03	5.733E-03	0.1949	0.2367
8	0.100	0.000	536.6	3.099E+00	4.389E-03	5.326E-03	0.1811	0.2198
10	0.150	0.000	532.3	2.400E+00	3.379E-03	4.095E-03	0.1395	0.1690
16	0.192	0.000	528.2	2.128E+00	2.978E-03	3.605E-03	0.1229	0.1488
20	0.250	0.000	528.1	2.058E+00	2.880E-03	3.487E-03	0.1189	0.1439
23	0.300	0.000	526.2	1.886E+00	2.632E-03	3.185E-03	0.1086	0.1314
30	0.350	0.000	527.5	1.825E+00	2.552E-03	3.089E-03	0.1053	0.1275
31	0.400	0.000	530.6	2.590E+00	3.637E-03	4.406E-03	0.1501	0.1819
33	0.450	0.000	533.6	2.633E+00	3.714E-03	4.503E-03	0.1533	0.1859
34	0.500	0.000	538.0	3.070E+00	4.356E-03	5.289E-03	0.1798	0.2183
37	0.550	0.000	541.9	3.382E+00	4.826E-03	5.866E-03	0.1992	0.2421
38	0.600	0.000	548.2	3.931E+00	5.660E-03	6.893E-03	0.2336	0.2845
40	0.650	0.000	554.0	3.854E+00	5.597E-03	6.830E-03	0.2310	0.2819
41	0.700	0.000	555.6	3.785E+00	5.508E-03	6.725E-03	0.2274	0.2776
43	0.750	0.000	554.4	3.816E+00	5.544E-03	6.766E-03	0.2288	0.2793
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	537.0	3.050E+00	4.323E-03	5.247E-03	0.1784	0.2166
11	0.150	0.091	531.9	2.761E+00	3.885E-03	4.708E-03	0.1604	0.1943
17	0.192	0.107	532.1	2.585E+00	3.638E-03	4.408E-03	0.1501	0.1820
87	0.300	-0.106	526.8	2.280E+00	3.185E-03	3.854E-03	0.1315	0.1591
88	0.300	0.061	528.8	2.051E+00	2.873E-03	3.478E-03	0.1186	0.1436
89	0.300	0.122	529.6	2.418E+00	3.391E-03	4.107E-03	0.1400	0.1695
24	0.300	0.160	528.1	2.509E+00	3.511E-03	4.250E-03	0.1449	0.1754
25	0.300	0.221	528.6	2.550E+00	3.571E-03	4.323E-03	0.1474	0.1785
90	0.400	-0.107	528.1	1.874E+00	2.622E-03	3.175E-03	0.1082	0.1310
32	0.400	0.107	527.5	1.826E+00	2.553E-03	3.090E-03	0.1054	0.1276
52	0.400	0.250	530.1	2.234E+00	3.135E-03	3.798E-03	0.1294	0.1568
91	0.425	0.061	529.0	1.704E+00	2.388E-03	2.891E-03	0.0986	0.1193
92	0.425	0.178	529.0	2.116E+00	2.965E-03	3.590E-03	0.1224	0.1482
93	0.500	-0.107	532.2	1.620E+00	2.280E-03	2.764E-03	0.0941	0.1141
35	0.500	0.107	530.5	1.485E+00	2.085E-03	2.526E-03	0.0861	0.1043
94	0.500	0.178	533.1	1.956E+00	2.756E-03	3.341E-03	0.1137	0.1379
53	0.500	0.250	534.3	2.105E+00	2.972E-03	3.604E-03	0.1227	0.1488
95	0.600	-0.250	542.1	1.670E+00	2.383E-03	2.897E-03	0.0984	0.1196
39	0.600	0.107	541.8	1.487E+00	2.121E-03	2.578E-03	0.0876	0.1064

RUN 70

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:09:30
DATE RECORDED: 8-JUN-95
TIME RECORDED: 19:57:16
00001107B

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
71	S5R21	G-3	29-O	7.93	213.2	1241.67	30.00	7.96	37.96	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.8	0.023	1.007	3748.	2.064E-05	7.470E-08	1.0357E+06	1.949E+06	2.459E-02	0.415

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	557.9	5.105E+00	7.466E-03	9.122E-03	0.3036	0.3710
6	0.060	0.000	549.0	3.828E+00	5.527E-03	6.734E-03	0.2248	0.2738
7	0.080	0.000	541.2	3.146E+00	4.491E-03	5.458E-03	0.1826	0.2220
8	0.100	0.000	537.0	2.939E+00	4.172E-03	5.064E-03	0.1696	0.2059
10	0.150	0.000	529.3	2.314E+00	3.248E-03	3.934E-03	0.1321	0.1600
16	0.192	0.000	523.8	2.006E+00	2.794E-03	3.378E-03	0.1136	0.1374
20	0.250	0.000	523.7	1.959E+00	2.728E-03	3.298E-03	0.1109	0.1341
23	0.300	0.000	522.7	1.845E+00	2.566E-03	3.101E-03	0.1043	0.1261
30	0.350	0.000	525.6	1.779E+00	2.485E-03	3.007E-03	0.1011	0.1223
31	0.400	0.000	530.0	2.485E+00	3.492E-03	4.230E-03	0.1420	0.1720
33	0.450	0.000	533.7	2.489E+00	3.515E-03	4.263E-03	0.1429	0.1733
34	0.500	0.000	538.3	2.947E+00	4.189E-03	5.087E-03	0.1703	0.2069
37	0.550	0.000	543.1	3.240E+00	4.638E-03	5.641E-03	0.1886	0.2294
38	0.600	0.000	549.5	3.817E+00	5.514E-03	6.720E-03	0.2242	0.2733
40	0.650	0.000	556.4	3.822E+00	5.578E-03	6.813E-03	0.2268	0.2770
41	0.700	0.000	560.5	3.710E+00	5.446E-03	6.660E-03	0.2215	0.2708
43	0.750	0.000	559.6	3.488E+00	5.114E-03	6.252E-03	0.2080	0.2542
46	0.850	0.000	565.0	3.589E+00	5.304E-03	6.496E-03	0.2157	0.2641
49	0.950	0.000	562.7	2.768E+00	4.077E-03	4.990E-03	0.1658	0.2029
86	0.125	0.055	534.3	2.953E+00	4.174E-03	5.063E-03	0.1697	0.2059
11	0.150	0.091	526.9	2.747E+00	3.843E-03	4.651E-03	0.1563	0.1891
17	0.192	0.107	525.6	2.537E+00	3.543E-03	4.286E-03	0.1441	0.1743
87	0.300	-0.106	524.6	2.157E+00	3.008E-03	3.638E-03	0.1223	0.1479
88	0.300	0.061	524.6	1.992E+00	2.778E-03	3.360E-03	0.1130	0.1366
89	0.300	0.122	524.9	2.259E+00	3.152E-03	3.813E-03	0.1282	0.1550
24	0.300	0.160	523.0	2.394E+00	3.331E-03	4.026E-03	0.1354	0.1637
25	0.300	0.221	523.7	2.507E+00	3.492E-03	4.223E-03	0.1420	0.1717
90	0.400	-0.107	528.3	1.790E+00	2.509E-03	3.038E-03	0.1020	0.1235
32	0.400	0.107	526.4	1.763E+00	2.464E-03	2.982E-03	0.1002	0.1213
52	0.400	0.250	528.3	2.180E+00	3.056E-03	3.700E-03	0.1243	0.1505
91	0.425	0.061	528.5	1.577E+00	2.212E-03	2.678E-03	0.0899	0.1089
92	0.425	0.178	527.8	1.994E+00	2.793E-03	3.381E-03	0.1136	0.1375
93	0.500	-0.107	532.5	1.477E+00	2.082E-03	2.524E-03	0.0847	0.1027
35	0.500	0.107	531.1	1.402E+00	1.973E-03	2.391E-03	0.0802	0.0972
94	0.500	0.178	533.3	1.825E+00	2.576E-03	3.124E-03	0.1048	0.1270
53	0.500	0.250	534.1	2.013E+00	2.845E-03	3.450E-03	0.1157	0.1403
95	0.600	-0.250	542.2	1.524E+00	2.178E-03	2.649E-03	0.0886	0.1077
39	0.600	0.107	542.7	1.408E+00	2.014E-03	2.449E-03	0.0819	0.0996

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:09:31
DATE RECORDED: 8-JUN 95
TIME RECORDED: 19:57:16
00001079

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
71	S5R21	G-3	29-0	7.93	213.2	1241.67	30.00	7.96	37.96	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.8	0.023	1.007	3748	2.064E-05	7.470E-08	1.0357E+06	1.949E+06	2.459E-02	0.415

CO-AXIAL DATA

GAGE NO	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	542.0	1.518E+00	2.170E-03	2.638E-03	0.0882	0.1073
98	0.660	-0.107	551.8	1.340E+00	1.943E-03	2.369E-03	0.0790	0.0964
96	0.660	0.107	553.0	1.715E+00	2.491E-03	3.039E-03	0.1013	0.1236
97	0.660	0.250	552.0	1.276E+00	1.850E-03	2.256E-03	0.0752	0.0918
60	0.660	0.400	557.5	2.017E+00	2.947E-03	3.601E-03	0.1199	0.1464
65	0.700	0.500	565.0	2.393E+00	3.536E-03	4.331E-03	0.1438	0.1761
99	0.750	0.178	556.5	1.098E+00	1.603E-03	1.958E-03	0.0652	0.0796
100	0.755	0.400	563.9	1.366E+00	2.016E-03	2.468E-03	0.0820	0.1004
101	0.800	-0.250	557.0	1.054E+00	1.539E-03	1.880E-03	0.0626	0.0765
45	0.800	0.107	561.2	3.284E+00	4.826E-03	5.903E-03	0.1962	0.2400
56	0.800	0.250	557.6	1.158E+00	1.693E-03	2.069E-03	0.0689	0.0841
66	0.800	0.500	570.0	1.495E+00	2.226E-03	2.731E-03	0.0905	0.1111
70	0.800	0.600	575.0	2.045E+00	3.068E-03	3.770E-03	0.1247	0.1533
75	0.800	0.750	576.0	2.017E+00	3.029E-03	3.724E-03	0.1232	0.1514
102	0.886	0.732	570.7	2.155E+00	3.211E-03	3.940E-03	0.1306	0.1602
103	0.900	-0.107	558.1	2.252E+00	3.295E-03	4.026E-03	0.1340	0.1637
57	0.900	0.250	561.7	1.303E+00	1.917E-03	2.345E-03	0.0780	0.0954

RUN 71

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 13:09:34
DATE RECORDED: 8-JUN-95
TIME RECORDED: 19:59:06
00001108I

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
72	S5R23	G-3	29-0	7.93	209.2	1239.67	30.00	4.95	34.95	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.7	0.022	0.989	3745.	2.030E-05	7.459E-08	1.0192E+06	1.918E+06	2.436E-02	0.416

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	542.3	1.408E+00	2.019E-03	2.456E-03	0.0829	0.1008
98	0.660	-0.107	551.0	1.225E+00	1.779E-03	2.169E-03	0.0730	0.0890
96	0.660	0.107	551.7	1.380E+00	2.006E-03	2.446E-03	0.0823	0.1004
97	0.660	0.250	550.6	1.115E+00	1.617E-03	1.972E-03	0.0664	0.0810
60	0.660	0.400	557.1	1.936E+00	2.836E-03	3.465E-03	0.1164	0.1422
65	0.700	0.500	569.5	2.340E+00	3.491E-03	4.284E-03	0.1433	0.1758
99	0.750	0.178	559.2	9.914E-01	1.457E-03	1.781E-03	0.0598	0.0731
100	0.755	0.400	567.4	1.319E+00	1.962E-03	2.405E-03	0.0805	0.0987
101	0.800	-0.250	558.7	1.053E+00	1.547E-03	1.891E-03	0.0635	0.0776
45	0.800	0.107	561.7	2.048E+00	3.021E-03	3.696E-03	0.1240	0.1517
56	0.800	0.250	559.5	1.010E+00	1.484E-03	1.815E-03	0.0609	0.0745
66	0.800	0.500	572.1	1.632E+00	2.444E-03	3.001E-03	0.1003	0.1232
70	0.800	0.600	578.0	2.123E+00	3.208E-03	3.948E-03	0.1317	0.1621
75	0.800	0.750	579.9	1.866E+00	2.828E-03	3.482E-03	0.1161	0.1430
102	0.886	0.732	570.7	1.911E+00	2.857E-03	3.507E-03	0.1173	0.1440
103	0.900	-0.107	557.7	1.543E+00	2.262E-03	2.765E-03	0.0929	0.1135
57	0.900	0.250	560.8	1.119E+00	1.648E-03	2.016E-03	0.0676	0.0827

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:09.38
DATE RECORDED: 8-JUN-95
TIME RECORDED: 20:16.29
00001108.?

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
73	S5R25	G-3	29-O	7.90	125.0	1234.67	30.00	4.95	34.95	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.9	0.014	0.600	3735.	1.239E-05	7.479E-08	6.1865E+05	1.164E+06	1.897E-02	0.423

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	546.0	3.811E+00	5.534E-03	6.742E-03	0.2918	0.3555
6	0.060	0.000	540.3	2.752E+00	3.963E-03	4.820E-03	0.2089	0.2541
7	0.080	0.000	536.1	2.323E+00	3.325E-03	4.039E-03	0.1753	0.2130
8	0.100	0.000	535.2	2.060E+00	2.945E-03	3.576E-03	0.1553	0.1885
10	0.150	0.000	532.5	1.632E+00	2.324E-03	2.819E-03	0.1225	0.1487
16	0.192	0.000	529.2	1.387E+00	1.966E-03	2.383E-03	0.1036	0.1256
20	0.250	0.000	529.8	1.422E+00	2.017E-03	2.446E-03	0.1064	0.1290
23	0.300	0.000	528.4	1.294E+00	1.832E-03	2.220E-03	0.0966	0.1170
30	0.350	0.000	530.0	1.208E+00	1.714E-03	2.078E-03	0.0904	0.1096
31	0.400	0.000	529.9	1.386E+00	1.967E-03	2.385E-03	0.1037	0.1257
33	0.450	0.000	532.2	1.254E+00	1.786E-03	2.166E-03	0.0941	0.1142
34	0.500	0.000	534.8	1.184E+00	1.692E-03	2.055E-03	0.0892	0.1083
37	0.550	0.000	538.2	1.116E+00	1.603E-03	1.948E-03	0.0845	0.1027
38	0.600	0.000	542.3	1.078E+00	1.557E-03	1.895E-03	0.0821	0.0999
40	0.650	0.000	547.2	9.561E-01	1.391E-03	1.695E-03	0.0733	0.0894
41	0.700	0.000	551.7	8.656E-01	1.267E-03	1.547E-03	0.0668	0.0816
43	0.750	0.000	551.4	8.433E-01	1.234E-03	1.506E-03	0.0651	0.0794
46	0.850	0.000	554.9	7.387E-01	1.087E-03	1.328E-03	0.0573	0.0700
49	0.950	0.000	553.7	6.702E-01	9.842E-04	1.202E-03	0.0519	0.0634
86	0.125	0.055	535.9	2.037E+00	2.915E-03	3.540E-03	0.1537	0.1867
11	0.150	0.091	531.9	1.955E+00	2.782E-03	3.374E-03	0.1467	0.1779
17	0.192	0.107	532.6	1.702E+00	2.425E-03	2.942E-03	0.1279	0.1551
87	0.300	-0.106	528.7	1.562E+00	2.212E-03	2.681E-03	0.1167	0.1414
88	0.300	0.061	530.7	1.373E+00	1.951E-03	2.366E-03	0.1029	0.1247
89	0.300	0.122	531.0	1.638E+00	2.327E-03	2.822E-03	0.1227	0.1488
24	0.300	0.160	529.6	1.729E+00	2.452E-03	2.973E-03	0.1293	0.1568
25	0.300	0.221	530.3	1.738E+00	2.468E-03	2.992E-03	0.1301	0.1578
90	0.400	-0.107	530.6	1.280E+00	1.819E-03	2.205E-03	0.0959	0.1163
32	0.400	0.107	530.2	1.235E+00	1.753E-03	2.125E-03	0.0924	0.1121
52	0.400	0.250	532.6	1.558E+00	2.219E-03	2.693E-03	0.1170	0.1420
91	0.425	0.061	531.4	1.157E+00	1.645E-03	1.996E-03	0.0867	0.1052
92	0.425	0.178	531.1	1.437E+00	2.043E-03	2.477E-03	0.1077	0.1306
93	0.500	-0.107	534.7	1.090E+00	1.557E-03	1.891E-03	0.0821	0.0997
35	0.500	0.107	533.3	1.067E+00	1.521E-03	1.846E-03	0.0802	0.0973
94	0.500	0.178	535.1	1.326E+00	1.895E-03	2.302E-03	0.0999	0.1214
53	0.500	0.250	536.3	1.464E+00	2.096E-03	2.546E-03	0.1105	0.1343
95	0.600	-0.250	542.0	1.129E+00	1.629E-03	1.983E-03	0.0859	0.1045
39	0.600	0.107	541.8	1.006E+00	1.452E-03	1.767E-03	0.0765	0.0931

RUN 73

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:09 38
DATE RECORDED: 8-JUN-95
TIME RECORDED: 20:16:29
000011083

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
73	S5R25	G-3	29-0	7.90	125.0	1234.67	30.00	4.95	34.95	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.9	0.014	0.600	3735.	1.239E-05	7.479E-08	6.1865E+05	1.164E+06	1.897E-02	0.423

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	542.3	1.158E+00	1.673E-03	2.036E-03	0.0882	0.1073
98	0.660	-0.107	548.0	9.812E-01	1.429E-03	1.742E-03	0.0753	0.0919
96	0.660	0.107	548.4	1.065E+00	1.551E-03	1.891E-03	0.0818	0.0997
97	0.660	0.250	549.3	9.018E-01	1.316E-03	1.605E-03	0.0694	0.0846
60	0.660	0.400	554.3	1.523E+00	2.238E-03	2.735E-03	0.1180	0.1442
65	0.700	0.500	559.2	1.880E+00	2.783E-03	3.406E-03	0.1468	0.1796
99	0.750	0.178	553.8	7.828E-01	1.150E-03	1.404E-03	0.0606	0.0741
100	0.755	0.400	556.5	1.211E+00	1.785E-03	2.182E-03	0.0941	0.1151
101	0.800	-0.250	552.9	7.165E-01	1.051E-03	1.283E-03	0.0554	0.0677
45	0.800	0.107	552.6	6.640E-01	9.736E-04	1.189E-03	0.0513	0.0627
56	0.800	0.250	553.0	8.117E-01	1.191E-03	1.454E-03	0.0628	0.0767
66	0.800	0.500	559.0	1.276E+00	1.889E-03	2.312E-03	0.0996	0.1219
70	0.800	0.600	562.1	1.829E+00	2.719E-03	3.330E-03	0.1433	0.1756
75	0.800	0.750	563.2	1.687E+00	2.512E-03	3.078E-03	0.1325	0.1623
102	0.886	0.732	560.6	1.649E+00	2.447E-03	2.995E-03	0.1290	0.1579
103	0.900	-0.107	550.9	7.884E-01	1.153E-03	1.407E-03	0.0608	0.0742
57	0.900	0.250	557.0	1.114E+00	1.644E-03	2.010E-03	0.0867	0.1060

RUN 73

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:09:42
DATE RECORDED: 8-JUN-95
TIME RECORDED: 20:18.53
000011084

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
74	S5R27	G-3	29-0	7.90	128.1	1236.67	30.00	9.97	39.97	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.1	0.014	0.614	3738.	1.266E-05	7.490E-08	6.3205E+05	1.189E+06	1.920E-02	0.426

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	557.1	4.106E+00	6.041E-03	7.385E-03	0.3147	0.3847
6	0.060	0.000	550.6	3.074E+00	4.481E-03	5.466E-03	0.2334	0.2847
7	0.080	0.000	545.5	2.586E+00	3.742E-03	4.557E-03	0.1949	0.2374
8	0.100	0.000	543.7	2.375E+00	3.427E-03	4.172E-03	0.1785	0.2173
10	0.150	0.000	539.2	1.875E+00	2.689E-03	3.268E-03	0.1401	0.1702
16	0.192	0.000	535.0	1.656E+00	2.360E-03	2.864E-03	0.1229	0.1492
20	0.250	0.000	535.4	1.594E+00	2.273E-03	2.760E-03	0.1184	0.1438
23	0.300	0.000	533.8	1.486E+00	2.115E-03	2.566E-03	0.1102	0.1337
30	0.350	0.000	535.1	1.399E+00	1.994E-03	2.420E-03	0.1038	0.1261
31	0.400	0.000	535.1	1.656E+00	2.361E-03	2.866E-03	0.1230	0.1493
33	0.450	0.000	536.9	1.515E+00	2.165E-03	2.630E-03	0.1128	0.1370
34	0.500	0.000	539.1	1.382E+00	1.981E-03	2.408E-03	0.1032	0.1254
37	0.550	0.000	542.3	1.262E+00	1.818E-03	2.212E-03	0.0947	0.1152
38	0.600	0.000	550.4	1.072E+00	1.562E-03	1.905E-03	0.0814	0.0993
40	0.650	0.000	553.8	3.444E-01	5.044E-04	6.160E-04	0.0263	0.0321
41	0.700	0.000	555.0	1.039E+00	1.524E-03	1.862E-03	0.0794	0.0970
43	0.750	0.000	558.0	3.204E+00	4.721E-03	5.773E-03	0.2459	0.3007
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	543.4	2.275E+00	3.281E-03	3.993E-03	0.1709	0.2080
11	0.150	0.091	538.1	2.163E+00	3.096E-03	3.762E-03	0.1613	0.1960
17	0.192	0.107	537.8	1.966E+00	2.813E-03	3.418E-03	0.1465	0.1780
87	0.300	-0.106	533.5	1.691E+00	2.404E-03	2.917E-03	0.1252	0.1520
88	0.300	0.061	536.2	1.554E+00	2.218E-03	2.694E-03	0.1156	0.1403
89	0.300	0.122	536.4	1.861E+00	2.658E-03	3.228E-03	0.1385	0.1682
24	0.300	0.160	534.9	1.919E+00	2.735E-03	3.320E-03	0.1425	0.1729
25	0.300	0.221	535.0	1.937E+00	2.760E-03	3.351E-03	0.1438	0.1745
90	0.400	-0.107	535.0	1.443E+00	2.056E-03	2.496E-03	0.1071	0.1300
32	0.400	0.107	534.7	1.411E+00	2.010E-03	2.439E-03	0.1047	0.1271
52	0.400	0.250	536.5	1.764E+00	2.520E-03	3.060E-03	0.1313	0.1594
91	0.425	0.061	535.8	1.316E+00	1.877E-03	2.279E-03	0.0978	0.1187
92	0.425	0.178	535.2	1.576E+00	2.246E-03	2.727E-03	0.1170	0.1421
93	0.500	-0.107	538.5	1.208E+00	1.730E-03	2.103E-03	0.0901	0.1095
35	0.500	0.107	537.2	1.193E+00	1.705E-03	2.071E-03	0.0888	0.1079
94	0.500	0.178	538.9	1.494E+00	2.140E-03	2.601E-03	0.1115	0.1355
53	0.500	0.250	539.9	1.605E+00	2.303E-03	2.800E-03	0.1200	0.1459
95	0.600	-0.250	549.4	9.901E-01	1.441E-03	1.757E-03	0.0750	0.0915
39	0.600	0.107	550.0	9.717E-01	1.415E-03	1.726E-03	0.0737	0.0899

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:09:42
DATE RECORDED: 8-JUN-95
TIME RECORDED: 20:18:53
00001108S

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
74	S5R27	G-3	29-O	7.90	128.1	1236.67	30.00	9.97	39.97	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.1	0.014	0.614	3738.	1.266E-05	7.490E-08	6.3205E+05	1.189E+06	1.920E-02	0.426

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	549.9	9.993E-01	1.455E-03	1.775E-03	0.0758	0.0924
98	0.660	-0.107	553.3	5.208E-01	7.620E-04	9.304E-04	0.0397	0.0485
96	0.660	0.107	553.9	4.645E-01	6.803E-04	8.308E-04	0.0354	0.0433
97	0.660	0.250	555.1	5.107E-01	7.492E-04	9.153E-04	0.0390	0.0477
60	0.660	0.400	558.0	1.025E+00	1.510E-03	1.846E-03	0.0786	0.0962
65	0.700	0.500	566.4	2.460E+00	3.670E-03	4.500E-03	0.1912	0.2344
99	0.750	0.178	560.7	3.528E+00	5.220E-03	6.388E-03	0.2719	0.3328
100	0.755	0.400	568.8	5.338E+00	7.992E-03	9.808E-03	0.4163	0.5109
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:09:46
DATE RECORDED: 8-JUN-95
TIME RECORDED: 20:38:46
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RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
75	S5R 6	G-3	29-O	7.93	208.1	1236.67	30.00	9.96	39.96	0.01

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.5	0.022	0.984	3740.	2.025E-05	7.440E-08	1.0179E+06	1.915E+06	2.429E-02	0.136

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	250.5	2.977E+00	3.018E-03	3.451E-03	0.1243	0.1421
98	0.660	-0.107	237.3	2.716E+00	2.717E-03	3.101E-03	0.1119	0.1277
96	0.660	0.107	224.6	3.608E+00	3.565E-03	4.061E-03	0.1468	0.1672
97	0.660	0.250	240.0	2.711E+00	2.720E-03	3.105E-03	0.1120	0.1278
60	0.660	0.400	222.7	3.835E+00	3.782E-03	4.307E-03	0.1557	0.1773
65	0.700	0.500	212.1	5.119E+00	4.996E-03	5.682E-03	0.2057	0.2339
99	0.750	0.178	227.6	3.039E+00	3.012E-03	3.432E-03	0.1240	0.1413
100	0.755	0.400	192.2	3.333E+00	3.191E-03	3.620E-03	0.1314	0.1490
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:09:50
DATE RECORDED: 8-JUN-95
TIME RECORDED: 20:46:16
000011088

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
76	S5R10	G-3	29-0	7.93	208.0	1237.67	30.00	4.94	34.94	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.5	0.022	0.983	3742.	2.022E-05	7.447E-08	1.0161E+06	1.912E+06	2.428E-02	0.140

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	228.4	6.023E+00	5.967E-03	6.801E-03	0.2457	0.2801
6	0.060	0.000	216.8	4.871E+00	4.771E-03	5.429E-03	0.1965	0.2236
7	0.080	0.000	205.6	4.063E+00	3.937E-03	4.474E-03	0.1621.	0.1842
8	0.100	0.000	206.5	3.798E+00	3.683E-03	4.185E-03	0.1517	0.1723
10	0.150	0.000	210.3	3.163E+00	3.079E-03	3.501E-03	0.1268	0.1442
16	0.192	0.000	207.2	2.731E+00	2.650E-03	3.012E-03	0.1091	0.1240
20	0.250	0.000	194.4	2.874E+00	2.755E-03	3.126E-03	0.1134	0.1287
23	0.300	0.000	188.5	2.674E+00	2.549E-03	2.889E-03	0.1049	0.1190
30	0.350	0.000	201.6	2.526E+00	2.438E-03	2.769E-03	0.1004	0.1140
31	0.400	0.000	205.9	3.729E+00	3.614E-03	4.107E-03	0.1488	0.1691
33	0.450	0.000	208.0	3.652E+00	3.547E-03	4.031E-03	0.1460	0.1660
34	0.500	0.000	211.3	4.388E+00	4.275E-03	4.862E-03	0.1761	0.2002
37	0.550	0.000	211.2	4.623E+00	4.504E-03	5.122E-03	0.1855	0.2109
38	0.600	0.000	209.9	4.996E+00	4.861E-03	5.526E-03	0.2002	0.2276
40	0.650	0.000	212.6	5.051E+00	4.927E-03	5.604E-03	0.2029	0.2308
41	0.700	0.000	217.5	5.339E+00	5.233E-03	5.956E-03	0.2155	0.2452
43	0.750	0.000	220.2	5.061E+00	4.974E-03	5.663E-03	0.2048	0.2332
46	0.850	0.000	224.0	5.040E+00	4.972E-03	5.663E-03	0.2047	0.2332
49	0.950	0.000	237.0	3.620E+00	3.618E-03	4.129E-03	0.1490	0.1700
86	0.125	0.055	220.3	3.839E+00	3.774E-03	4.296E-03	0.1554	0.1769
11	0.150	0.091	231.4	3.502E+00	3.480E-03	3.968E-03	0.1433	0.1634
17	0.192	0.107	264.5	2.986E+00	3.069E-03	3.516E-03	0.1264	0.1448
87	0.300	-0.106	201.0	2.943E+00	2.839E-03	3.224E-03	0.1169	0.1328
88	0.300	0.061	200.4	2.727E+00	2.629E-03	2.985E-03	0.1083	0.1229
89	0.300	0.122	215.3	3.102E+00	3.035E-03	3.453E-03	0.1250	0.1422
24	0.300	0.160	224.2	3.243E+00	3.200E-03	3.645E-03	0.1318	0.1501
25	0.300	0.221	249.0	3.181E+00	3.217E-03	3.678E-03	0.1325	0.1514
90	0.400	-0.107	207.8	2.492E+00	2.420E-03	2.750E-03	0.0996	0.1133
32	0.400	0.107	215.5	2.382E+00	2.330E-03	2.651E-03	0.0960	0.1092
52	0.400	0.250	251.6	2.970E+00	3.012E-03	3.445E-03	0.1240	0.1418
91	0.425	0.061	211.2	2.380E+00	2.318E-03	2.636E-03	0.0955	0.1086
92	0.425	0.178	230.0	2.671E+00	2.651E-03	3.022E-03	0.1091	0.1244
93	0.500	-0.107	205.0	2.176E+00	2.107E-03	2.394E-03	0.0868	0.0986
35	0.500	0.107	208.0	2.086E+00	2.026E-03	2.303E-03	0.0834	0.0948
94	0.500	0.178	222.7	2.683E+00	2.644E-03	3.011E-03	0.1089	0.1240
53	0.500	0.250	235.2	2.811E+00	2.804E-03	3.199E-03	0.1155	0.1317
95	0.600	-0.250	228.4	2.302E+00	2.280E-03	2.599E-03	0.0939	0.1070
39	0.600	0.107	214.6	2.260E+00	2.209E-03	2.513E-03	0.0910	0.1035

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:09.50
DATE RECORDED: 8-JUN-95
TIME RECORDED: 20:46.16
000011089

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
76	S5R10	G-3	29-0	7.93	208.0	1237.67	30.00	4.94	34.94	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.5	0.022	0.983	3742	2.022E-05	7.447E-08	1.0161E+06	1.912E+06	2.428E-02	0.140

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	232.9	2.455E+00	2.444E-03	2.787E-03	0.1006	0.1148
98	0.660	-0.107	215.4	2.224E+00	2.176E-03	2.476E-03	0.0896	0.1019
96	0.660	0.107	216.8	2.550E+00	2.498E-03	2.842E-03	0.1028	0.1170
97	0.660	0.250	231.8	2.206E+00	2.193E-03	2.501E-03	0.0903	0.1030
60	0.660	0.400	227.8	3.508E+00	3.474E-03	3.959E-03	0.1431	0.1630
65	0.700	0.500	233.3	4.122E+00	4.104E-03	4.681E-03	0.1690	0.1928
99	0.750	0.178	230.2	2.092E+00	2.077E-03	2.368E-03	0.0855	0.0975
100	0.755	0.400	203.0	2.799E+00	2.706E-03	3.073E-03	0.1114	0.1265
101	0.800	-0.250	242.1	1.992E+00	2.001E-03	2.285E-03	0.0824	0.0941
45	0.800	0.107	234.9	4.753E+00	4.740E-03	5.407E-03	0.1952	0.2227
56	0.800	0.250	233.1	2.018E+00	2.008E-03	2.291E-03	0.0827	0.0943
66	0.800	0.500	196.2	3.077E+00	2.955E-03	3.353E-03	0.1217	0.1381
70	0.800	0.600	203.5	3.790E+00	3.665E-03	4.163E-03	0.1509	0.1714
75	0.800	0.750	222.2	3.667E+00	3.611E-03	4.112E-03	0.1487	0.1693
102	0.886	0.732	208.7	3.307E+00	3.214E-03	3.653E-03	0.1323	0.1504
103	0.900	-0.107	227.5	3.349E+00	3.316E-03	3.779E-03	0.1365	0.1556
57	0.900	0.250	242.6	1.966E+00	1.975E-03	2.256E-03	0.0813	0.0929

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:09 53
DATE RECORDED: 8-JUN-95
TIME RECORDED: 21:02:00
000011090

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
77	S5R 8	G-3	29-O	7.90	126.0	1235.67	30.00	9.96	39.96	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.0	0.014	0.605	3737.	1.247E-05	7.485E-08	6.2271E+05	1.172E+06	1.904E-02	0.123

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	209.0	5.396E+00	5.256E-03	5.975E-03	0.2760	0.3138
6	0.060	0.000	196.3	4.451E+00	4.283E-03	4.861E-03	0.2249	0.2553
7	0.080	0.000	188.4	4.027E+00	3.845E-03	4.359E-03	0.2019	0.2289
8	0.100	0.000	187.6	3.548E+00	3.385E-03	3.838E-03	0.1778	0.2016
10	0.150	0.000	188.6	2.890E+00	2.760E-03	3.129E-03	0.1450	0.1644
16	0.192	0.000	180.3	2.590E+00	2.454E-03	2.779E-03	0.1289	0.1459
20	0.250	0.000	175.1	2.548E+00	2.403E-03	2.719E-03	0.1262	0.1428
23	0.300	0.000	171.0	2.392E+00	2.247E-03	2.542E-03	0.1180	0.1335
30	0.350	0.000	179.9	2.286E+00	2.165E-03	2.452E-03	0.1137	0.1288
31	0.400	0.000	179.7	3.221E+00	3.050E-03	3.455E-03	0.1602	0.1814
33	0.450	0.000	179.9	3.068E+00	2.906E-03	3.291E-03	0.1526	0.1728
34	0.500	0.000	178.3	3.169E+00	2.997E-03	3.393E-03	0.1574	0.1782
37	0.550	0.000	176.1	3.129E+00	2.954E-03	3.344E-03	0.1551	0.1756
38	0.600	0.000	183.8	3.520E+00	3.346E-03	3.791E-03	0.1757	0.1991
40	0.650	0.000	189.4	3.718E+00	3.554E-03	4.029E-03	0.1866	0.2116
41	0.700	0.000	191.8	4.813E+00	4.610E-03	5.229E-03	0.2421	0.2746
43	0.750	0.000	197.3	6.314E+00	6.080E-03	6.902E-03	0.3193	0.3625
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	195.6	3.581E+00	3.443E-03	3.907E-03	0.1808	0.2052
11	0.150	0.091	195.1	3.169E+00	3.046E-03	3.456E-03	0.1600	0.1815
17	0.192	0.107	215.9	2.819E+00	2.764E-03	3.145E-03	0.1452	0.1652
87	0.300	-0.106	178.5	2.680E+00	2.535E-03	2.871E-03	0.1331	0.1508
88	0.300	0.061	180.6	2.470E+00	2.342E-03	2.652E-03	0.1230	0.1393
89	0.300	0.122	188.7	2.815E+00	2.689E-03	3.049E-03	0.1412	0.1601
24	0.300	0.160	191.4	2.910E+00	2.787E-03	3.161E-03	0.1464	0.1660
25	0.300	0.221	203.1	2.884E+00	2.793E-03	3.172E-03	0.1467	0.1666
90	0.400	-0.107	182.8	2.297E+00	2.182E-03	2.472E-03	0.1146	0.1298
32	0.400	0.107	183.4	2.209E+00	2.099E-03	2.378E-03	0.1102	0.1249
52	0.400	0.250	208.6	2.671E+00	2.600E-03	2.956E-03	0.1366	0.1552
91	0.425	0.061	181.0	2.228E+00	2.112E-03	2.393E-03	0.1109	0.1257
92	0.425	0.178	191.4	2.451E+00	2.347E-03	2.662E-03	0.1233	0.1398
93	0.500	-0.107	178.1	2.165E+00	2.047E-03	2.318E-03	0.1075	0.1217
35	0.500	0.107	174.2	2.045E+00	1.927E-03	2.181E-03	0.1012	0.1145
94	0.500	0.178	183.3	2.437E+00	2.316E-03	2.624E-03	0.1216	0.1378
53	0.500	0.250	192.4	2.591E+00	2.483E-03	2.817E-03	0.1304	0.1479
95	0.600	-0.250	199.6	2.220E+00	2.143E-03	2.433E-03	0.1125	0.1278
39	0.600	0.107	192.8	2.200E+00	2.110E-03	2.393E-03	0.1108	0.1257

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-9[illegible]
TIME COMPUTED: 13:09 [illegible]
DATE RECORDED: 8-JUN 9[illegible]
TIME RECORDED: 21:02 00
000011091

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
77	S5R 8	G-3	29-O	7.90	126.0	1235.67	30.00	9.96	39.96	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.0	0.014	0.605	3737.	1.247E-05	7.485E-08	6.2271E+05	1.172E+06	1.904E-02	0.123

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	201.8	2.294E+00	2.219E-03	2.520E-03	0.1165	0.1323
98	0.660	-0.107	194.5	2.577E+00	2.475E-03	2.808E-03	0.1300	0.1475
96	0.660	0.107	199.5	2.775E+00	2.678E-03	3.041E-03	0.1407	0.1597
97	0.660	0.250	212.0	2.397E+00	2.342E-03	2.663E-03	0.1230	0.1399
60	0.660	0.400	201.9	3.811E+00	3.686E-03	4.187E-03	0.1936	0.2199
65	0.700	0.500	204.5	6.186E+00	5.999E-03	6.816E-03	0.3151	0.3580
99	0.750	0.178	213.0	6.113E+00	5.978E-03	6.799E-03	0.3139	0.3571
100	0.755	0.400	201.3	9.465E+00	9.151E-03	1.039E-02	0.4806	0.5458
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

RUN 77

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:09:58
DATE RECORDED: 8-JUN-95
TIME RECORDED: 21:07:40
00001109

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
78	S5R12	G-3	29-O	7.90	125.3	1240.67	30.00	4.94	34.94	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.4	0.014	0.601	3745.	1.235E-05	7.518E-08	6.1534E+05	1.158E+06	1.900E-02	0.132

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	221.0	5.254E+00	5.153E-03	5.866E-03	0.2711	0.3087
6	0.060	0.000	211.0	4.286E+00	4.162E-03	4.733E-03	0.2190	0.2490
7	0.080	0.000	201.6	3.561E+00	3.427E-03	3.891E-03	0.1803	0.2048
8	0.100	0.000	200.5	3.182E+00	3.059E-03	3.474E-03	0.1610	0.1828
10	0.150	0.000	203.2	2.686E+00	2.589E-03	2.941E-03	0.1362	0.1547
16	0.192	0.000	197.6	2.396E+00	2.297E-03	2.608E-03	0.1209	0.1372
20	0.250	0.000	184.2	2.412E+00	2.283E-03	2.587E-03	0.1201	0.1361
23	0.300	0.000	176.1	2.259E+00	2.123E-03	2.403E-03	0.1117	0.1264
30	0.350	0.000	183.7	2.188E+00	2.070E-03	2.346E-03	0.1090	0.1234
31	0.400	0.000	183.5	2.997E+00	2.835E-03	3.211E-03	0.1492	0.1690
33	0.450	0.000	183.0	2.629E+00	2.486E-03	2.816E-03	0.1308	0.1482
34	0.500	0.000	180.8	2.608E+00	2.461E-03	2.787E-03	0.1295	0.1467
37	0.550	0.000	182.4	2.704E+00	2.555E-03	2.894E-03	0.1344	0.1523
38	0.600	0.000	184.8	2.939E+00	2.783E-03	3.154E-03	0.1465	0.1660
40	0.650	0.000	191.0	3.079E+00	2.934E-03	3.327E-03	0.1544	0.1751
41	0.700	0.000	196.8	3.308E+00	3.169E-03	3.597E-03	0.1668	0.1893
43	0.750	0.000	199.6	3.268E+00	3.139E-03	3.564E-03	0.1652	0.1875
46	0.850	0.000	204.5	3.313E+00	3.197E-03	3.632E-03	0.1682	0.1911
49	0.950	0.000	214.0	2.624E+00	2.556E-03	2.908E-03	0.1345	0.1530
86	0.125	0.055	211.4	3.081E+00	2.993E-03	3.403E-03	0.1575	0.1791
11	0.150	0.091	222.0	2.823E+00	2.771E-03	3.156E-03	0.1458	0.1661
17	0.192	0.107	249.0	2.448E+00	2.469E-03	2.822E-03	0.1299	0.1485
87	0.300	-0.106	190.1	2.408E+00	2.292E-03	2.599E-03	0.1206	0.1368
88	0.300	0.061	187.9	2.288E+00	2.173E-03	2.463E-03	0.1143	0.1296
89	0.300	0.122	204.0	2.504E+00	2.415E-03	2.744E-03	0.1271	0.1444
24	0.300	0.160	216.4	2.522E+00	2.463E-03	2.802E-03	0.1296	0.1474
25	0.300	0.221	244.5	2.433E+00	2.442E-03	2.789E-03	0.1285	0.1468
90	0.400	-0.107	190.8	2.113E+00	2.012E-03	2.282E-03	0.1059	0.1201
32	0.400	0.107	195.4	2.109E+00	2.017E-03	2.289E-03	0.1062	0.1205
52	0.400	0.250	244.4	2.253E+00	2.261E-03	2.582E-03	0.1190	0.1359
91	0.425	0.061	187.6	2.081E+00	1.976E-03	2.240E-03	0.1040	0.1179
92	0.425	0.178	217.0	2.200E+00	2.149E-03	2.445E-03	0.1131	0.1287
93	0.500	-0.107	187.7	1.984E+00	1.884E-03	2.136E-03	0.0992	0.1124
35	0.500	0.107	187.8	1.968E+00	1.869E-03	2.119E-03	0.0984	0.1115
94	0.500	0.178	209.9	2.230E+00	2.163E-03	2.459E-03	0.1138	0.1294
53	0.500	0.250	234.7	2.225E+00	2.212E-03	2.523E-03	0.1164	0.1328
95	0.600	-0.250	225.3	1.850E+00	1.822E-03	2.076E-03	0.0959	0.1092
39	0.600	0.107	197.5	2.043E+00	1.959E-03	2.223E-03	0.1031	0.1170

CALSPAN CORP/AEDC OPERATIONS
KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 13:09:58
DATE RECORD 8-JUN-95
TIME RECORD. 21:07:40
000011093

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
78	S5R12	G-3	29-O	7.90	125.3	1240.67	30.00	4.94	34.94	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.4	0.014	0.601	3745.	1.235E-05	7.518E-08	6.1534E+05	1.158E+06	1.900E-02	0.132

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	234.1	1.982E+00	1.969E-03	2.246E-03	0.1036	0.1182
98	0.660	-0.107	202.6	1.964E+00	1.891E-03	2.148E-03	0.0995	0.1130
96	0.660	0.107	201.8	2.177E+00	2.095E-03	2.379E-03	0.1102	0.1252
97	0.660	0.250	226.8	1.917E+00	1.891E-03	2.155E-03	0.0995	0.1134
60	0.660	0.400	240.7	2.932E+00	2.932E-03	3.347E-03	0.1543	0.1761
65	0.700	0.500	244.2	3.176E+00	3.187E-03	3.641E-03	0.1677	0.1916
99	0.750	0.178	219.8	1.629E+00	1.596E-03	1.816E-03	0.0840	0.0956
100	0.755	0.400	194.9	2.238E+00	2.140E-03	2.428E-03	0.1126	0.1278
101	0.800	-0.250	228.4	1.466E+00	1.448E-03	1.650E-03	0.0762	0.0868
45	0.800	0.107	211.6	2.052E+00	1.994E-03	2.268E-03	0.1050	0.1193
56	0.800	0.250	225.9	1.521E+00	1.499E-03	1.708E-03	0.0789	0.0899
66	0.800	0.500	189.0	2.559E+00	2.433E-03	2.759E-03	0.1280	0.1452
70	0.800	0.600	195.5	3.383E+00	3.237E-03	3.673E-03	0.1703	0.1933
75	0.800	0.750	221.3	3.167E+00	3.106E-03	3.537E-03	0.1635	0.1861
102	0.886	0.732	201.4	2.888E+00	2.779E-03	3.155E-03	0.1462	0.1660
103	0.900	-0.107	204.9	1.508E+00	1.456E-03	1.654E-03	0.0766	0.0870
57	0.900	0.250	231.0	1.517E+00	1.503E-03	1.713E-03	0.0791	0.0902

RUN 78

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:10:02
DATE RECORDED: 8-JUN-95
TIME RECORDED: 21:36:25
000011095

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
79	S6R 3	C-3	29-0	7.98	458.7	1317.67	30.00	9.97	39.97	0.01

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.0	0.048	2.124	3871.	4.082E-05	7.887E-08	2.0036E+06	3.770E+06	3.608E-02	0.371

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	542.5	6.028E+00	7.776E-03	9.369E-03	0.2155	0.2597
98	0.660	-0.107	538.3	2.791E+00	3.581E-03	4.309E-03	0.0992	0.1194
96	0.660	0.107	551.0	3.754E+00	4.897E-03	5.914E-03	0.1357	0.1639
97	0.660	0.250	561.9	5.648E+00	7.473E-03	9.051E-03	0.2071	0.2508
60	0.660	0.400	584.4	8.562E+00	1.168E-02	1.423E-02	0.3236	0.3945
65	0.700	0.500	614.9	1.033E+01	1.470E-02	1.809E-02	0.4075	0.5015
99	0.750	0.178	569.6	4.600E+00	6.149E-03	7.463E-03	0.1704	0.2068
100	0.755	0.400	609.3	7.973E+00	1.125E-02	1.383E-02	0.3119	0.3832
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 13:10 05
DATE RECORDED: 8-JUN 95
TIME RECORDED: 21:39 00
000011096

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
80	S6R 9	C-3	29-O	7.98	460.1	1317.67	30.00	4.93	34.93	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.0	0.048	2.130	3871.	4.094E-05	7.887E-08	2.0097E+06	3.782E+06	3.614E-02	0.374

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	575.5	7.908E+00	1.066E-02	1.296E-02	0.2949	0.3585
6	0.060	0.000	561.9	5.877E+00	7.777E-03	9.419E-03	0.2152	0.2607
7	0.080	0.000	550.4	4.834E+00	6.301E-03	7.608E-03	0.1744	0.2105
8	0.100	0.000	541.5	4.492E+00	5.787E-03	6.970E-03	0.1601	0.1929
10	0.150	0.000	522.8	3.527E+00	4.437E-03	5.319E-03	0.1228	0.1472
16	0.192	0.000	510.5	3.125E+00	3.872E-03	4.627E-03	0.1071	0.1280
20	0.250	0.000	508.9	2.932E+00	3.625E-03	4.331E-03	0.1003	0.1198
23	0.300	0.000	505.4	2.762E+00	3.400E-03	4.058E-03	0.0941	0.1123
30	0.350	0.000	504.3	2.612E+00	3.211E-03	3.832E-03	0.0889	0.1060
31	0.400	0.000	502.7	2.346E+00	2.879E-03	3.434E-03	0.0797	0.0950
33	0.450	0.000	506.9	2.334E+00	2.879E-03	3.437E-03	0.0797	0.0951
34	0.500	0.000	511.1	2.446E+00	3.032E-03	3.624E-03	0.0839	0.1003
37	0.550	0.000	518.4	2.532E+00	3.169E-03	3.794E-03	0.0877	0.1050
38	0.600	0.000	532.7	3.079E+00	3.923E-03	4.714E-03	0.1086	0.1305
40	0.650	0.000	546.1	3.560E+00	4.614E-03	5.565E-03	0.1277	0.1540
41	0.700	0.000	563.1	4.107E+00	5.443E-03	6.594E-03	0.1506	0.1825
43	0.750	0.000	566.9	4.624E+00	6.159E-03	7.470E-03	0.1704	0.2067
46	0.850	0.000	583.1	5.717E+00	7.783E-03	9.484E-03	0.2154	0.2625
49	0.950	0.000	586.9	4.648E+00	6.361E-03	7.760E-03	0.1760	0.2148
86	0.125	0.055	543.0	6.121E+00	7.901E-03	9.520E-03	0.2186	0.2635
11	0.150	0.091	522.5	4.364E+00	5.488E-03	6.578E-03	0.1519	0.1821
17	0.192	0.107	519.8	5.251E+00	6.581E-03	7.883E-03	0.1821	0.2182
87	0.300	-0.106	504.4	3.472E+00	4.269E-03	5.095E-03	0.1181	0.1410
88	0.300	0.061	512.0	3.601E+00	4.470E-03	5.344E-03	0.1237	0.1479
89	0.300	0.122	528.0	7.663E+00	9.704E-03	1.165E-02	0.2685	0.3223
24	0.300	0.160	525.7	7.672E+00	9.688E-03	1.162E-02	0.2681	0.3216
25	0.300	0.221	518.2	6.472E+00	8.095E-03	9.693E-03	0.2240	0.2682
90	0.400	-0.107	501.7	2.683E+00	3.288E-03	3.922E-03	0.0910	0.1085
32	0.400	0.107	519.1	5.962E+00	7.466E-03	8.942E-03	0.2066	0.2474
52	0.400	0.250	523.2	7.549E+00	9.503E-03	1.139E-02	0.2630	0.3153
91	0.425	0.061	510.4	3.452E+00	4.276E-03	5.109E-03	0.1183	0.1414
92	0.425	0.178	526.4	7.894E+00	9.976E-03	1.197E-02	0.2761	0.3312
93	0.500	-0.107	507.2	2.276E+00	2.809E-03	3.354E-03	0.0777	0.0928
35	0.500	0.107	526.3	6.062E+00	7.660E-03	9.191E-03	0.2120	0.2543
94	0.500	0.178	533.8	7.889E+00	1.006E-02	1.210E-02	0.2785	0.3348
53	0.500	0.250	534.4	7.950E+00	1.015E-02	1.220E-02	0.2809	0.3377
95	0.600	-0.250	524.3	2.465E+00	3.107E-03	3.726E-03	0.0860	0.1031
39	0.600	0.107	544.5	6.690E+00	8.653E-03	1.043E-02	0.2395	0.2886

RUN 80

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 13:10 06
DATE RECORDED: 8-JUN-95
TIME RECORDED: 21:39:00
00001097

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
80	S6R 9	C-3	29-O	7.98	460.1	1317.67	30.00	4.93	34.93	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.0	0.048	2.130	3871.	4.094E-05	7.887E-08	2.0097E+06	3.782E+06	3.614E-02	0.374

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	550.1	7.688E+00	1.002E-02	1.209E-02	0.2772	0.3346
98	0.660	-0.107	540.2	2.360E+00	3.036E-03	3.656E-03	0.0840	0.1012
96	0.660	0.107	562.6	6.946E+00	9.199E-03	1.114E-02	0.2546	0.3084
97	0.660	0.250	569.1	7.508E+00	1.003E-02	1.217E-02	0.2776	0.3369
60	0.660	0.400	589.1	9.103E+00	1.249E-02	1.525E-02	0.3458	0.4221
65	0.700	0.500	621.4	1.106E+01	1.588E-02	1.959E-02	0.4395	0.5421
99	0.750	0.178	582.7	6.957E+00	9.465E-03	1.153E-02	0.2619	0.3191
100	0.755	0.400	613.9	8.180E+00	1.162E-02	1.430E-02	0.3216	0.3957
101	0.800	-0.250	567.8	2.380E+00	3.173E-03	3.850E-03	0.0878	0.1065
45	0.800	0.107	582.3	6.530E+00	8.880E-03	1.082E-02	0.2457	0.2994
56	0.800	0.250	588.9	7.192E+00	9.870E-03	1.205E-02	0.2731	0.3334
66	0.800	0.500	631.8	8.167E+00	1.191E-02	1.474E-02	0.3295	0.4079
70	0.800	0.600	651.4	9.034E+00	1.356E-02	1.690E-02	0.3752	0.4677
75	0.800	0.750	658.0	9.343E+00	1.416E-02	1.770E-02	0.3919	0.4897
102	0.886	0.732	650.6	7.695E+00	1.154E-02	1.438E-02	0.3192	0.3978
103	0.900	-0.107	573.4	3.443E+00	4.627E-03	5.622E-03	0.1280	0.1556
57	0.900	0.250	589.8	6.121E+00	8.409E-03	1.027E-02	0.2327	0.2842

RUN 80

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 13:10 10
DATE RECORDED: 8-JUN 95
TIME RECORDED: 21:55 19
000011098

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
81	S6R 5	C-3	29-0	7.96	328.9	1290.67	30.00	9.96	39.96	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.2	0.035	1.535	3827.	3.018E-05	7.744E-08	1.4916E+06	2.807E+06	3.057E-02	0.380

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	545.3	7.379E+00	9.899E-03	1.197E-02	0.3239	0.3917
6	0.060	0.000	534.6	5.519E+00	7.300E-03	8.803E-03	0.2388	0.2880
7	0.080	0.000	527.8	4.622E+00	6.058E-03	7.292E-03	0.1982	0.2386
8	0.100	0.000	524.7	4.267E+00	5.570E-03	6.699E-03	0.1822	0.2192
10	0.150	0.000	515.8	3.426E+00	4.422E-03	5.305E-03	0.1447	0.1736
16	0.192	0.000	508.4	3.014E+00	3.853E-03	4.614E-03	0.1261	0.1510
20	0.250	0.000	505.2	2.980E+00	3.794E-03	4.541E-03	0.1241	0.1486
23	0.300	0.000	501.9	2.733E+00	3.464E-03	4.142E-03	0.1133	0.1355
30	0.350	0.000	501.9	2.556E+00	3.240E-03	3.874E-03	0.1060	0.1268
31	0.400	0.000	500.6	2.352E+00	2.978E-03	3.559E-03	0.0974	0.1164
33	0.450	0.000	505.3	2.325E+00	2.960E-03	3.543E-03	0.0969	0.1159
34	0.500	0.000	509.7	2.296E+00	2.940E-03	3.522E-03	0.0962	0.1152
37	0.550	0.000	515.0	2.150E+00	2.771E-03	3.325E-03	0.0907	0.1088
38	0.600	0.000	527.3	2.215E+00	2.901E-03	3.491E-03	0.0949	0.1142
40	0.650	0.000	539.2	2.098E+00	2.792E-03	3.371E-03	0.0913	0.1103
41	0.700	0.000	545.1	1.805E+00	2.421E-03	2.928E-03	0.0792	0.0958
43	0.750	0.000	544.2	1.420E+00	1.902E-03	2.300E-03	0.0622	0.0752
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	526.9	4.818E+00	6.308E-03	7.591E-03	0.2064	0.2483
11	0.150	0.091	515.9	3.889E+00	5.020E-03	6.023E-03	0.1642	0.1971
17	0.192	0.107	514.4	3.895E+00	5.018E-03	6.018E-03	0.1642.	0.1969
87	0.300	-0.106	502.4	3.194E+00	4.052E-03	4.845E-03	0.1326	0.1585
88	0.300	0.061	505.0	2.925E+00	3.724E-03	4.455E-03	0.1218	0.1458
89	0.300	0.122	506.5	3.510E+00	4.477E-03	5.359E-03	0.1465	0.1753
24	0.300	0.160	507.1	3.875E+00	4.945E-03	5.921E-03	0.1618	0.1937
25	0.300	0.221	507.0	3.958E+00	5.051E-03	6.047E-03	0.1652	0.1978
90	0.400	-0.107	501.4	2.665E+00	3.377E-03	4.037E-03	0.1105	0.1321
32	0.400	0.107	502.8	2.539E+00	3.222E-03	3.854E-03	0.1054	0.1261
52	0.400	0.250	508.8	3.676E+00	4.701E-03	5.631E-03	0.1538	0.1842
91	0.425	0.061	503.8	2.424E+00	3.081E-03	3.685E-03	0.1008	0.1206
92	0.425	0.178	506.5	3.076E+00	3.922E-03	4.695E-03	0.1283	0.1536
93	0.500	-0.107	509.1	2.182E+00	2.791E-03	3.344E-03	0.0913	0.1094
35	0.500	0.107	509.4	2.104E+00	2.692E-03	3.225E-03	0.0881	0.1055
94	0.500	0.178	513.4	2.780E+00	3.576E-03	4.288E-03	0.1170	0.1403
53	0.500	0.250	516.3	3.219E+00	4.157E-03	4.988E-03	0.1360	0.1632
95	0.600	-0.250	525.9	2.348E+00	3.070E-03	3.693E-03	0.1004	0.1208
39	0.600	0.107	527.3	2.141E+00	2.805E-03	3.376E-03	0.0918	0.1104

RUN 81

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:10:10
DATE RECORDED: 8-JUN 95
TIME RECORDED: 21:55:19
000011099

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
81	S6R 5	C-3	29-0	7.96	328.9	1290.67	30.00	9.96	39.96	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.2	0.035	1.535	3827.	3.018E-05	7.744E-08	1.4916E+06	2.807E+06	3.057E-02	0.380

CO-AXIAL DATA

GAGE NO	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	531.3	2.524E+00	3.324E-03	4.005E-03	0.1087	0.1310
98	0.660	-0.107	537.8	2.124E+00	2.821E-03	3.405E-03	0.0923	0.1114
96	0.660	0.107	543.2	2.370E+00	3.171E-03	3.833E-03	0.1037	0.1254
97	0.660	0.250	546.1	2.177E+00	2.924E-03	3.538E-03	0.0957	0.1157
60	0.660	0.400	557.7	3.613E+00	4.930E-03	5.984E-03	0.1613	0.1958
65	0.700	0.500	572.7	4.397E+00	6.124E-03	7.467E-03	0.2004	0.2443
99	0.750	0.178	551.4	1.507E+00	2.038E-03	2.469E-03	0.0667	0.0808
100	0.755	0.400	568.3	2.710E+00	3.752E-03	4.568E-03	0.1228	0.1495
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

RUN 81

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:10.14
DATE RECORDED: 8-JUN-95
TIME RECORDED: 21:56.35
000011100

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
82	S6R 5	C-3	29-0	7.96	333.1	1289.67	30.00	4.96	34.96	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.1	0.035	1.554	3826.	3.058E-05	7.737E-08	1.5123E+06	2.846E+06	3.075E-02	0.388

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	565.5	6.346E+00	8.763E-03	1.066E-02	0.2850	0.3467
6	0.060	0.000	552.7	4.781E+00	6.487E-03	7.863E-03	0.2109	0.2557
7	0.080	0.000	543.8	3.880E+00	5.201E-03	6.289E-03	0.1691	0.2045
8	0.100	0.000	538.9	3.500E+00	4.662E-03	5.629E-03	0.1516	0.1830
10	0.150	0.000	527.3	2.808E+00	3.683E-03	4.433E-03	0.1198	0.1441
16	0.192	0.000	517.7	2.405E+00	3.115E-03	3.740E-03	0.1013	0.1216
20	0.250	0.000	514.2	2.321E+00	2.993E-03	3.590E-03	0.0973	0.1167
23	0.300	0.000	510.6	2.224E+00	2.854E-03	3.421E-03	0.0928	0.1112
30	0.350	0.000	509.5	2.144E+00	2.748E-03	3.293E-03	0.0894	0.1071
31	0.400	0.000	507.6	1.966E+00	2.514E-03	3.010E-03	0.0817	0.0979
33	0.450	0.000	511.8	1.904E+00	2.448E-03	2.935E-03	0.0796	0.0954
34	0.500	0.000	516.0	1.873E+00	2.421E-03	2.905E-03	0.0787	0.0945
37	0.550	0.000	523.2	1.706E+00	2.225E-03	2.675E-03	0.0724	0.0870
38	0.600	0.000	534.6	1.729E+00	2.290E-03	2.762E-03	0.0745	0.0898
40	0.650	0.000	543.4	1.610E+00	2.157E-03	2.608E-03	0.0702	0.0848
41	0.700	0.000	553.1	1.564E+00	2.123E-03	2.573E-03	0.0690	0.0837
43	0.750	0.000	554.1	1.537E+00	2.089E-03	2.533E-03	0.0679	0.0824
46	0.850	0.000	564.7	1.539E+00	2.123E-03	2.582E-03	0.0690	0.0840
49	0.950	0.000	565.7	1.621E+00	2.239E-03	2.724E-03	0.0728	0.0886
86	0.125	0.055	538.0	3.979E+00	5.294E-03	6.391E-03	0.1722	0.2078
11	0.150	0.091	526.0	3.360E+00	4.399E-03	5.293E-03	0.1431	0.1721
17	0.192	0.107	519.8	3.156E+00	4.099E-03	4.923E-03	0.1333	0.1601
87	0.300	-0.106	509.8	2.768E+00	3.549E-03	4.253E-03	0.1154	0.1383
88	0.300	0.061	514.3	2.451E+00	3.161E-03	3.792E-03	0.1028	0.1233
89	0.300	0.122	519.3	3.854E+00	5.003E-03	6.010E-03	0.1627	0.1954
24	0.300	0.160	517.5	3.858E+00	4.996E-03	5.998E-03	0.1625	0.1951
25	0.300	0.221	514.2	3.395E+00	4.377E-03	5.251E-03	0.1423	0.1707
90	0.400	-0.107	507.4	2.209E+00	2.824E-03	3.381E-03	0.0918	0.1099
32	0.400	0.107	511.5	2.554E+00	3.282E-03	3.934E-03	0.1067	0.1279
52	0.400	0.250	517.4	4.114E+00	5.326E-03	6.394E-03	0.1732	0.2079
91	0.425	0.061	510.6	2.025E+00	2.600E-03	3.115E-03	0.0845	0.1013
92	0.425	0.178	520.1	4.564E+00	5.930E-03	7.124E-03	0.1928	0.2317
93	0.500	-0.107	514.5	1.843E+00	2.378E-03	2.852E-03	0.0773	0.0928
35	0.500	0.107	517.5	2.230E+00	2.888E-03	3.467E-03	0.0939	0.1127
94	0.500	0.178	526.7	4.428E+00	5.804E-03	6.985E-03	0.1887	0.2271
53	0.500	0.250	530.1	5.246E+00	6.906E-03	8.318E-03	0.2246	0.2705
95	0.600	-0.250	529.8	1.949E+00	2.565E-03	3.089E-03	0.0834	0.1004
39	0.600	0.107	535.6	2.450E+00	3.249E-03	3.920E-03	0.1057	0.1275

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:10:14
DATE RECORDED: 8-JUN-95
TIME RECORDED: 21:56:35
000011101

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
82	S6R 5	C-3	29-0	7.96	333.1	1289.67	30.00	4.96	34.96	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.1	0.035	1.554	3826.	3.058E-05	7.737E-08	1.5123E+06	2.846E+06	3.075E-02	0.388

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	543.9	5.141E+00	6.894E-03	8.336E-03	0.2242	0.2711
98	0.660	-0.107	541.5	1.680E+00	2.245E-03	2.712E-03	0.0730	0.0882
96	0.660	0.107	549.6	2.793E+00	3.774E-03	4.570E-03	0.1227	0.1486
97	0.660	0.250	558.0	5.058E+00	6.913E-03	8.392E-03	0.2248	0.2729
60	0.660	0.400	576.6	6.556E+00	9.194E-03	1.122E-02	0.2990	0.3650
65	0.700	0.500	600.8	7.916E+00	1.149E-02	1.414E-02	0.3737	0.4598
99	0.750	0.178	565.4	4.040E+00	5.578E-03	6.787E-03	0.1814	0.2207
100	0.755	0.400	589.2	6.353E+00	9.070E-03	1.112E-02	0.2949	0.3615
101	0.800	-0.250	557.4	1.565E+00	2.137E-03	2.594E-03	0.0695	0.0844
45	0.800	0.107	563.6	2.906E+00	4.003E-03	4.867E-03	0.1302	0.1583
56	0.800	0.250	571.8	5.202E+00	7.247E-03	8.834E-03	0.2357	0.2873
66	0.800	0.500	603.3	6.184E+00	9.011E-03	1.110E-02	0.2930	0.3608
70	0.800	0.600	619.1	6.807E+00	1.015E-02	1.257E-02	0.3301	0.4087
75	0.800	0.750	622.0	3.516E+00	5.266E-03	6.527E-03	0.1713	0.2123
102	0.886	0.732	617.7	5.751E+00	8.558E-03	1.059E-02	0.2783	0.3444
103	0.900	-0.107	557.7	1.145E+00	1.564E-03	1.898E-03	0.0509	0.0617
57	0.900	0.250	574.0	4.490E+00	6.274E-03	7.653E-03	0.2040	0.2489

RUN 82

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:10:19
DATE RECORDED: 8-JUN-95
TIME RECORDED: 21:59 01
000011102

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
83	S6R11	C-3	29-0	7.96	327.7	1288.67	30.00	4.97	34.97	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.1	0.035	1.530	3824.	3.013E-05	7.732E-08	1.4900E+06	2.804E+06	3.050E-02	0.389

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	563.4	6.466E+00	8.915E-03	1.084E-02	0.2923	0.3554
6	0.060	0.000	551.7	4.762E+00	6.462E-03	7.832E-03	0.2119	0.2568
7	0.080	0.000	542.5	3.902E+00	5.229E-03	6.321E-03	0.1714	0.2072
8	0.100	0.000	536.4	3.605E+00	4.791E-03	5.782E-03	0.1571	0.1895
10	0.150	0.000	523.2	2.889E+00	3.774E-03	4.538E-03	0.1237	0.1488
16	0.192	0.000	514.7	2.471E+00	3.193E-03	3.831E-03	0.1047	0.1256
20	0.250	0.000	514.0	2.356E+00	3.042E-03	3.649E-03	0.0997	0.1196
23	0.300	0.000	512.2	2.239E+00	2.883E-03	3.457E-03	0.0945	0.1133
30	0.350	0.000	512.3	2.091E+00	2.694E-03	3.230E-03	0.0883	0.1059
31	0.400	0.000	510.9	1.929E+00	2.480E-03	2.972E-03	0.0813	0.0974
33	0.450	0.000	515.5	1.890E+00	2.445E-03	2.934E-03	0.0801	0.0962
34	0.500	0.000	519.6	1.858E+00	2.416E-03	2.903E-03	0.0792	0.0952
37	0.550	0.000	526.1	1.763E+00	2.312E-03	2.783E-03	0.0758	0.0912
38	0.600	0.000	536.5	1.768E+00	2.350E-03	2.836E-03	0.0770	0.0930
40	0.650	0.000	544.4	1.621E+00	2.177E-03	2.633E-03	0.0714	0.0863
41	0.700	0.000	555.1	1.545E+00	2.106E-03	2.554E-03	0.0690	0.0837
43	0.750	0.000	556.8	1.529E+00	2.090E-03	2.536E-03	0.0685	0.0831
46	0.850	0.000	564.0	1.618E+00	2.233E-03	2.716E-03	0.0732	0.0890
49	0.950	0.000	564.8	1.542E+00	2.129E-03	2.591E-03	0.0698	0.0849
86	0.125	0.055	533.9	4.019E+00	5.325E-03	6.422E-03	0.1746	0.2105
11	0.150	0.091	522.3	3.426E+00	4.470E-03	5.374E-03	0.1465	0.1762
17	0.192	0.107	518.5	3.137E+00	4.073E-03	4.891E-03	0.1335	0.1603
87	0.300	-0.106	511.6	2.755E+00	3.545E-03	4.250E-03	0.1162	0.1393
88	0.300	0.061	515.8	2.408E+00	3.116E-03	3.739E-03	0.1022	0.1226
89	0.300	0.122	520.2	3.700E+00	4.815E-03	5.785E-03	0.1579	0.1897
24	0.300	0.160	518.3	3.729E+00	4.841E-03	5.814E-03	0.1587	0.1906
25	0.300	0.221	515.9	3.365E+00	4.354E-03	5.225E-03	0.1427	0.1713
90	0.400	-0.107	510.9	2.191E+00	2.817E-03	3.377E-03	0.0924	0.1107
32	0.400	0.107	514.5	2.507E+00	3.238E-03	3.884E-03	0.1061	0.1273
52	0.400	0.250	520.0	3.932E+00	5.116E-03	6.146E-03	0.1677	0.2015
91	0.425	0.061	514.1	2.016E+00	2.603E-03	3.123E-03	0.0853	0.1024
92	0.425	0.178	522.6	4.433E+00	5.787E-03	6.957E-03	0.1897	0.2281
93	0.500	-0.107	518.3	1.797E+00	2.333E-03	2.802E-03	0.0765	0.0918
35	0.500	0.107	521.1	2.169E+00	2.825E-03	3.395E-03	0.0926	0.1113
94	0.500	0.178	530.0	4.260E+00	5.615E-03	6.764E-03	0.1841	0.2217
53	0.500	0.250	533.3	5.007E+00	6.629E-03	7.993E-03	0.2173	0.2620
95	0.600	-0.250	533.3	1.976E+00	2.616E-03	3.154E-03	0.0858	0.1034
39	0.600	0.107	538.2	2.382E+00	3.174E-03	3.832E-03	0.1040	0.1256

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:10:19
DATE RECORDED: 8-JUN-95
TIME RECORDED: 21:59:01
000011103

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
83	S6R11	C-3	29-0	7.96	327.7	1288.67	30.00	4.97	34.97	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.1	0.035	1.530	3824.	3.013E-05	7.732E-08	1.4900E+06	2.804E+06	3.050E-02	0.389

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	546.9	4.861E+00	6.553E-03	7.931E-03	0.2148	0.2600
98	0.660	-0.107	542.9	1.676E+00	2.248E-03	2.717E-03	0.0737	0.0891
96	0.660	0.107	551.4	2.688E+00	3.647E-03	4.419E-03	0.1195	0.1449
97	0.660	0.250	560.7	4.790E+00	6.580E-03	7.995E-03	0.2157	0.2621
60	0.660	0.400	576.4	6.334E+00	8.894E-03	1.086E-02	0.2916	0.3560
65	0.700	0.500	600.8	7.712E+00	1.121E-02	1.380E-02	0.3675	0.4522
99	0.750	0.178	569.8	3.823E+00	5.318E-03	6.480E-03	0.1743	0.2124
100	0.755	0.400	595.6	5.863E+00	8.460E-03	1.039E-02	0.2773	0.3407
101	0.800	-0.250	560.1	1.431E+00	1.964E-03	2.386E-03	0.0644	0.0782
45	0.800	0.107	566.6	2.826E+00	3.914E-03	4.764E-03	0.1283	0.1562
56	0.800	0.250	575.9	4.974E+00	6.979E-03	8.519E-03	0.2288	0.2793
66	0.800	0.500	606.7	6.047E+00	8.867E-03	1.093E-02	0.2907	0.3584
70	0.800	0.600	620.0	6.592E+00	9.858E-03	1.221E-02	0.3232	0.4003
75	0.800	0.750	617.4	3.401E+00	5.066E-03	6.270E-03	0.1661	0.2056
102	0.886	0.732	615.1	5.677E+00	8.428E-03	1.042E-02	0.2763	0.3417
103	0.900	-0.107	557.6	1.231E+00	1.684E-03	2.045E-03	0.0552	0.0670
57	0.900	0.250	574.6	4.419E+00	6.189E-03	7.552E-03	0.2029	0.2476

RUN 83

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:10:25
DATE RECORDED: 8-JUN-95
TIME RECORDED: 22:12:10
000011104

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
84	S6R 7	C-3	29-O	7.93	209.1	1244.67	30.00	9.98	39.98	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.1	0.022	0.988	3753.	2.021E-05	7.492E-08	1.0123E+06	1.905E+06	2.437E-02	0.405

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	545.1	5.424E+00	7.753E-03	9.431E-03	0.3181	0.3870
6	0.060	0.000	537.0	4.037E+00	5.704E-03	6.922E-03	0.2341	0.2840
7	0.080	0.000	531.6	3.370E+00	4.727E-03	5.726E-03	0.1939	0.2350
8	0.100	0.000	529.3	3.138E+00	4.386E-03	5.310E-03	0.1800	0.2179
10	0.150	0.000	522.3	2.475E+00	3.427E-03	4.140E-03	0.1406	0.1699
16	0.192	0.000	516.7	2.185E+00	3.002E-03	3.621E-03	0.1232	0.1486
20	0.250	0.000	514.5	2.113E+00	2.894E-03	3.488E-03	0.1187	0.1431
23	0.300	0.000	512.3	1.971E+00	2.692E-03	3.243E-03	0.1104	0.1331
30	0.350	0.000	512.9	1.896E+00	2.590E-03	3.121E-03	0.1063	0.1281
31	0.400	0.000	512.3	1.717E+00	2.344E-03	2.824E-03	0.0962	0.1159
33	0.450	0.000	516.6	1.684E+00	2.313E-03	2.790E-03	0.0949	0.1145
34	0.500	0.000	520.4	1.680E+00	2.320E-03	2.802E-03	0.0952	0.1149
37	0.550	0.000	525.2	1.557E+00	2.164E-03	2.616E-03	0.0888	0.1073
38	0.600	0.000	534.7	1.551E+00	2.184E-03	2.648E-03	0.0896	0.1087
40	0.650	0.000	544.1	1.327E+00	1.894E-03	2.303E-03	0.0777	0.0945
41	0.700	0.000	547.3	6.552E-01	9.395E-04	1.144E-03	0.0385	0.0469
43	0.750	0.000	548.4	1.594E+00	2.289E-03	2.787E-03	0.0939	0.1144
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	528.7	3.084E+00	4.308E-03	5.214E-03	0.1768	0.2139
11	0.150	0.091	522.1	2.820E+00	3.902E-03	4.714E-03	0.1601	0.1934
17	0.192	0.107	520.2	2.677E+00	3.694E-03	4.461E-03	0.1516	0.1830
87	0.300	-0.106	512.5	2.303E+00	3.145E-03	3.789E-03	0.1290	0.1555
88	0.300	0.061	514.9	2.177E+00	2.983E-03	3.596E-03	0.1224	0.1475
89	0.300	0.122	515.2	2.500E+00	3.427E-03	4.132E-03	0.1406	0.1695
24	0.300	0.160	514.3	2.554E+00	3.496E-03	4.215E-03	0.1435	0.1729
25	0.300	0.221	514.5	2.571E+00	3.521E-03	4.245E-03	0.1445	0.1742
90	0.400	-0.107	513.0	1.911E+00	2.612E-03	3.147E-03	0.1072	0.1291
32	0.400	0.107	513.9	1.886E+00	2.581E-03	3.110E-03	0.1059	0.1276
52	0.400	0.250	516.3	2.233E+00	3.065E-03	3.697E-03	0.1258	0.1517
91	0.425	0.061	515.1	1.760E+00	2.413E-03	2.910E-03	0.0990	0.1194
92	0.425	0.178	516.2	2.106E+00	2.891E-03	3.486E-03	0.1186	0.1430
93	0.500	-0.107	520.1	1.614E+00	2.228E-03	2.690E-03	0.0914	0.1104
35	0.500	0.107	520.2	1.577E+00	2.177E-03	2.628E-03	0.0893	0.1078
94	0.500	0.178	522.7	1.954E+00	2.707E-03	3.271E-03	0.1111	0.1342
53	0.500	0.250	524.2	2.127E+00	2.953E-03	3.569E-03	0.1211	0.1464
95	0.600	-0.250	534.0	1.703E+00	2.397E-03	2.906E-03	0.0983	0.1192
39	0.600	0.107	534.6	1.498E+00	2.110E-03	2.559E-03	0.0866	0.1050

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:10:25
DATE RECORDED: 8-JUN-95
TIME RECORDED: 22:12:10
000011105

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
84	S6R 7	C-3	29-0	7.93	209.1	1244.67	30.00	9.98	39.98	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.1	0.022	0.988	3753.	2.021E-05	7.492E-08	1.0123E+06	1.905E+06	2.437E-02	0.405

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	537.5	1.683E+00	2.380E-03	2.889E-03	0.0977	0.1185
98	0.660	-0.107	542.7	1.344E+00	1.915E-03	2.328E-03	0.0786	0.0955
96	0.660	0.107	546.9	1.484E+00	2.127E-03	2.589E-03	0.0873	0.1062
97	0.660	0.250	549.2	1.304E+00	1.874E-03	2.283E-03	0.0769	0.0937
60	0.660	0.400	556.4	2.039E+00	2.962E-03	3.616E-03	0.1216	0.1484
65	0.700	0.500	567.5	2.418E+00	3.570E-03	4.374E-03	0.1465	0.1795
99	0.750	0.178	554.0	1.194E+00	1.729E-03	2.109E-03	0.0709	0.0865
100	0.755	0.400	563.9	9.602E-01	1.411E-03	1.726E-03	0.0579	0.0708
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 13:10:30
DATE RECORDED: 8-JUN-95
TIME RECORDED: 22:14:17
000011106

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
85	S6R13	C-3	29-0	7.93	209.4	1241.67	30.00	4.94	34.94	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.9	0.022	0.990	3748.	2.029E-05	7.472E-08	1.0177E+06	1.915E+06	2.438E-02	0.408

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	553.7	4.743E+00	6.895E-03	8.413E-03	0.2828	0.3451
6	0.060	0.000	544.7	3.480E+00	4.993E-03	6.076E-03	0.2048	0.2492
7	0.080	0.000	537.6	2.836E+00	4.029E-03	4.892E-03	0.1653	0.2007
8	0.100	0.000	533.1	2.580E+00	3.642E-03	4.416E-03	0.1494	0.1811
10	0.150	0.000	523.7	2.088E+00	2.909E-03	3.517E-03	0.1193	0.1443
16	0.192	0.000	516.9	1.749E+00	2.413E-03	2.912E-03	0.0990	0.1194
20	0.250	0.000	514.9	1.717E+00	2.362E-03	2.849E-03	0.0969	0.1169
23	0.300	0.000	513.1	1.639E+00	2.249E-03	2.711E-03	0.0923	0.1112
30	0.350	0.000	514.4	1.517E+00	2.086E-03	2.515E-03	0.0856	0.1032
31	0.400	0.000	514.4	1.372E+00	1.887E-03	2.275E-03	0.0774	0.0933
33	0.450	0.000	518.7	1.342E+00	1.856E-03	2.241E-03	0.0761	0.0919
34	0.500	0.000	522.4	1.344E+00	1.868E-03	2.258E-03	0.0766	0.0926
37	0.550	0.000	528.2	1.236E+00	1.732E-03	2.097E-03	0.0711	0.0860
38	0.600	0.000	536.7	1.206E+00	1.711E-03	2.077E-03	0.0702	0.0852
40	0.650	0.000	543.5	1.112E+00	1.593E-03	1.938E-03	0.0654	0.0795
41	0.700	0.000	551.6	9.917E-01	1.437E-03	1.752E-03	0.0589	0.0719
43	0.750	0.000	552.2	9.825E-01	1.425E-03	1.738E-03	0.0584	0.0713
46	0.850	0.000	558.9	6.817E-01	9.984E-04	1.220E-03	0.0410	0.0501
49	0.950	0.000	559.2	5.086E-01	7.452E-04	9.109E-04	0.0306	0.0374
86	0.125	0.055	530.2	2.508E+00	3.525E-03	4.270E-03	0.1446	0.1751
11	0.150	0.091	522.7	2.435E+00	3.387E-03	4.094E-03	0.1389	0.1679
17	0.192	0.107	518.8	2.229E+00	3.083E-03	3.723E-03	0.1265	0.1527
87	0.300	-0.106	514.0	1.956E+00	2.688E-03	3.240E-03	0.1102	0.1329
88	0.300	0.061	514.8	1.754E+00	2.413E-03	2.910E-03	0.0990	0.1194
89	0.300	0.122	514.1	2.111E+00	2.902E-03	3.499E-03	0.1190	0.1435
24	0.300	0.160	512.7	2.235E+00	3.066E-03	3.695E-03	0.1257	0.1516
25	0.300	0.221	512.8	2.306E+00	3.164E-03	3.814E-03	0.1298	0.1565
90	0.400	-0.107	515.3	1.590E+00	2.189E-03	2.641E-03	0.0898	0.1083
32	0.400	0.107	515.1	1.521E+00	2.094E-03	2.526E-03	0.0859	0.1036
52	0.400	0.250	517.0	2.011E+00	2.776E-03	3.349E-03	0.1139	0.1374
91	0.425	0.061	516.9	1.418E+00	1.957E-03	2.362E-03	0.0803	0.0969
92	0.425	0.178	517.0	1.847E+00	2.549E-03	3.076E-03	0.1046	0.1262
93	0.500	-0.107	522.1	1.318E+00	1.832E-03	2.214E-03	0.0751	0.0908
35	0.500	0.107	521.9	1.273E+00	1.769E-03	2.137E-03	0.0726	0.0877
94	0.500	0.178	523.8	1.679E+00	2.339E-03	2.828E-03	0.0959	0.1160
53	0.500	0.250	524.9	1.816E+00	2.534E-03	3.065E-03	0.1039	0.1257
95	0.600	-0.250	534.7	1.384E+00	1.958E-03	2.375E-03	0.0803	0.0974
39	0.600	0.107	536.2	1.239E+00	1.757E-03	2.132E-03	0.0721	0.0875

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:10:30
DATE RECORDED: 8-JUN-95
TIME RECORDED: 22:14:17
00001110?

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
85	S6R13	C-3	29-O	7.93	209.4	1241.67	30.00	4.94	34.94	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.9	0.022	0.990	3748	2.029E-05	7.472E-08	1.0177E+06	1.915E+06	2.438E-02	0.408

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	537.7	1.386E+00	1.968E-03	2.390E-03	0.0807	0.0980
98	0.660	-0.107	542.8	1.166E+00	1.668E-03	2.029E-03	0.0684	0.0832
96	0.660	0.107	546.7	1.287E+00	1.853E-03	2.256E-03	0.0760	0.0925
97	0.660	0.250	548.1	1.073E+00	1.548E-03	1.885E-03	0.0635	0.0773
60	0.660	0.400	557.7	1.909E+00	2.791E-03	3.410E-03	0.1145	0.1399
65	0.700	0.500	573.4	2.258E+00	3.379E-03	4.150E-03	0.1386	0.1703
99	0.750	0.178	557.5	9.796E-01	1.432E-03	1.749E-03	0.0587	0.0717
100	0.755	0.400	570.8	1.306E+00	1.947E-03	2.389E-03	0.0799	0.0980
101	0.800	-0.250	555.5	1.016E+00	1.480E-03	1.808E-03	0.0607	0.0741
45	0.800	0.107	557.7	8.827E-01	1.291E-03	1.577E-03	0.0529	0.0647
56	0.800	0.250	560.0	9.272E-01	1.360E-03	1.663E-03	0.0558	0.0682
66	0.800	0.500	579.4	1.476E+00	2.228E-03	2.742E-03	0.0914	0.1125
70	0.800	0.600	588.6	2.041E+00	3.125E-03	3.858E-03	0.1282	0.1583
75	0.800	0.750	591.1	1.771E+00	2.722E-03	3.364E-03	0.1117	0.1380
102	0.886	0.732	587.9	1.748E+00	2.673E-03	3.300E-03	0.1096	0.1354
103	0.900	-0.107	554.2	6.798E-01	9.888E-04	1.207E-03	0.0406	0.0495
57	0.900	0.250	562.2	1.021E+00	1.502E-03	1.838E-03	0.0616	0.0754

RUN 85

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:10:35
DATE RECORDED: 8-JUN-95
TIME RECORDED: 22:32:39
000011108

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
86	S6R 4	C-3	29-0	7.96	331.6	1288.67	30.00	9.94	39.94	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.1	0.035	1.547	3824.	3.048E-05	7.731E-08	1.5075E+06	2.837E+06	3.068E-02	0.129

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	236.3	7.963E+00	7.567E-03	8.622E-03	0.2466	0.2810
6	0.060	0.000	217.2	6.318E+00	5.896E-03	6.702E-03	0.1922	0.2185
7	0.080	0.000	214.6	6.338E+00	5.901E-03	6.706E-03	0.1923	0.2186
8	0.100	0.000	210.5	5.363E+00	4.974E-03	5.650E-03	0.1621	0.1841
10	0.150	0.000	210.8	4.432E+00	4.112E-03	4.671E-03	0.1340	0.1522
16	0.192	0.000	203.4	3.814E+00	3.515E-03	3.988E-03	0.1146	0.1300
20	0.250	0.000	198.4	4.232E+00	3.882E-03	4.402E-03	0.1265	0.1435
23	0.300	0.000	193.3	3.806E+00	3.474E-03	3.937E-03	0.1132	0.1283
30	0.350	0.000	219.3	4.999E+00	4.675E-03	5.315E-03	0.1524	0.1733
31	0.400	0.000	225.2	6.873E+00	6.463E-03	7.354E-03	0.2107	0.2397
33	0.450	0.000	231.6	7.720E+00	7.304E-03	8.318E-03	0.2381	0.2711
34	0.500	0.000	229.4	8.005E+00	7.557E-03	8.603E-03	0.2463	0.2804
37	0.550	0.000	223.7	7.391E+00	6.940E-03	7.896E-03	0.2262	0.2574
38	0.600	0.000	225.4	7.725E+00	7.266E-03	8.268E-03	0.2368	0.2695
40	0.650	0.000	237.8	8.056E+00	7.666E-03	8.737E-03	0.2499	0.2848
41	0.700	0.000	235.6	8.111E+00	7.702E-03	8.776E-03	0.2510	0.2860
43	0.750	0.000	230.8	7.496E+00	7.086E-03	8.068E-03	0.2310	0.2630
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	232.1	6.765E+00	6.403E-03	7.292E-03	0.2087	0.2377
11	0.150	0.091	222.4	4.897E+00	4.592E-03	5.224E-03	0.1497	0.1703
17	0.192	0.107	250.9	4.540E+00	4.374E-03	4.995E-03	0.1426	0.1628
87	0.300	-0.106	209.8	4.568E+00	4.234E-03	4.809E-03	0.1380	0.1567
88	0.300	0.061	202.5	3.817E+00	3.514E-03	3.987E-03	0.1145	0.1300
89	0.300	0.122	218.4	4.852E+00	4.534E-03	5.155E-03	0.1478	0.1680
24	0.300	0.160	225.0	5.430E+00	5.105E-03	5.808E-03	0.1664	0.1893
25	0.300	0.221	237.3	5.128E+00	4.877E-03	5.558E-03	0.1590	0.1812
90	0.400	-0.107	210.4	3.522E+00	3.266E-03	3.709E-03	0.1065	0.1209
32	0.400	0.107	214.8	3.507E+00	3.266E-03	3.711E-03	0.1065	0.1210
52	0.400	0.250	255.0	5.989E+00	5.794E-03	6.620E-03	0.1889	0.2158
91	0.425	0.061	210.5	3.357E+00	3.113E-03	3.536E-03	0.1015	0.1153
92	0.425	0.178	234.0	4.977E+00	4.719E-03	5.376E-03	0.1538	0.1752
93	0.500	-0.107	206.2	3.139E+00	2.900E-03	3.292E-03	0.0945	0.1073
35	0.500	0.107	206.4	2.975E+00	2.749E-03	3.120E-03	0.0896	0.1017
94	0.500	0.178	222.7	4.262E+00	3.998E-03	4.548E-03	0.1303	0.1482
53	0.500	0.250	254.2	8.196E+00	7.923E-03	9.050E-03	0.2582	0.2950
95	0.600	-0.250	234.0	3.366E+00	3.191E-03	3.636E-03	0.1040	0.1185
39	0.600	0.107	225.8	4.275E+00	4.022E-03	4.577E-03	0.1311	0.1492

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:10:35
DATE RECORDED: 8-JUN-95
TIME RECORDED: 22:32:39
00001110

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
86	S6R 4	C-3	29-O	7.96	331.6	1288.67	30.00	9.94	39.94	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.1	0.035	1.547	3824.	3.048E-05	7.731E-08	1.5075E+06	2.837E+06	3.068E-02	0.129

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	241.1	5.039E+00	4.810E-03	5.485E-03	0.1568	0.1788
98	0.660	-0.107	236.0	5.374E+00	5.105E-03	5.817E-03	0.1664	0.1896
96	0.660	0.107	249.1	7.452E+00	7.168E-03	8.183E-03	0.2337	0.2667
97	0.660	0.250	249.6	4.599E+00	4.426E-03	5.052E-03	0.1443	0.1647
60	0.660	0.400	253.6	1.021E+01	9.863E-03	1.127E-02	0.3215	0.3672
65	0.700	0.500	254.0	1.205E+01	1.164E-02	1.330E-02	0.3795	0.4335
99	0.750	0.178	246.4	5.543E+00	5.318E-03	6.069E-03	0.1733	0.1978
100	0.755	0.400	234.2	9.880E+00	9.369E-03	1.067E-02	0.3054	0.3479
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

RUN 86

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:10:39
DATE RECORDED: 8-JUN-95
TIME RECORDED: 22:36:59
000011110

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
87	S6R16	C-3	29-0	7.96	331.3	1290.67	30.00	9.94	39.94	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.2	0.035	1.546	3827.	3.040E-05	7.744E-08	1.5024E+06	2.827E+06	3.067E-02	0.116

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	234.4	8.568E+00	8.111E-03	9.241E-03	0.2644	0.3013
6	0.060	0.000	213.1	6.474E+00	6.008E-03	6.826E-03	0.1959	0.2225
7	0.080	0.000	203.5	5.917E+00	5.442E-03	6.176E-03	0.1774	0.2013
8	0.100	0.000	201.0	5.210E+00	4.782E-03	5.424E-03	0.1559	0.1768
10	0.150	0.000	200.0	4.437E+00	4.068E-03	4.614E-03	0.1326	0.1504
16	0.192	0.000	193.3	4.141E+00	3.774E-03	4.277E-03	0.1230	0.1394
20	0.250	0.000	186.8	4.254E+00	3.853E-03	4.364E-03	0.1256	0.1423
23	0.300	0.000	181.0	3.961E+00	3.570E-03	4.040E-03	0.1164	0.1317
30	0.350	0.000	190.2	3.748E+00	3.406E-03	3.859E-03	0.1110	0.1258
31	0.400	0.000	188.3	4.279E+00	3.882E-03	4.397E-03	0.1265	0.1433
33	0.450	0.000	202.2	5.539E+00	5.089E-03	5.773E-03	0.1659	0.1882
34	0.500	0.000	209.2	7.244E+00	6.699E-03	7.606E-03	0.2184	0.2480
37	0.550	0.000	211.5	7.899E+00	7.319E-03	8.313E-03	0.2386	0.2710
38	0.600	0.000	216.3	8.524E+00	7.934E-03	9.017E-03	0.2586	0.2940
40	0.650	0.000	225.1	8.483E+00	7.961E-03	9.058E-03	0.2595	0.2953
41	0.700	0.000	223.3	8.426E+00	7.894E-03	8.980E-03	0.2573	0.2927
43	0.750	0.000	219.7	8.003E+00	7.473E-03	8.497E-03	0.2436	0.2770
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	220.9	6.624E+00	6.192E-03	7.042E-03	0.2019	0.2296
11	0.150	0.091	215.1	5.317E+00	4.943E-03	5.618E-03	0.1612	0.1831
17	0.192	0.107	244.3	5.070E+00	4.845E-03	5.527E-03	0.1580	0.1802
87	0.300	-0.106	191.1	4.321E+00	3.930E-03	4.452E-03	0.1281	0.1451
88	0.300	0.061	191.7	4.033E+00	3.670E-03	4.158E-03	0.1196	0.1356
89	0.300	0.122	207.6	5.161E+00	4.766E-03	5.411E-03	0.1554	0.1764
24	0.300	0.160	217.1	5.965E+00	5.556E-03	6.316E-03	0.1811	0.2059
25	0.300	0.221	231.3	5.689E+00	5.370E-03	6.115E-03	0.1751	0.1993
90	0.400	-0.107	194.2	3.667E+00	3.344E-03	3.790E-03	0.1090	0.1236
32	0.400	0.107	197.1	3.758E+00	3.436E-03	3.896E-03	0.1120	0.1270
52	0.400	0.250	240.0	5.923E+00	5.637E-03	6.427E-03	0.1838	0.2095
91	0.425	0.061	192.4	3.649E+00	3.323E-03	3.765E-03	0.1083	0.1227
92	0.425	0.178	218.0	5.030E+00	4.689E-03	5.330E-03	0.1529	0.1738
93	0.500	-0.107	191.0	3.361E+00	3.057E-03	3.463E-03	0.0996	0.1129
35	0.500	0.107	188.3	3.381E+00	3.067E-03	3.473E-03	0.1000	0.1132
94	0.500	0.178	207.5	4.628E+00	4.272E-03	4.850E-03	0.1393	0.1581
53	0.500	0.250	229.1	6.260E+00	5.897E-03	6.713E-03	0.1923	0.2189
95	0.600	-0.250	218.7	3.578E+00	3.338E-03	3.795E-03	0.1088	0.1237
39	0.600	0.107	209.3	4.905E+00	4.536E-03	5.151E-03	0.1479	0.1679

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:10:39
DATE RECORDED: 8-JUN-95
TIME RECORDED: 22:36:39
000011111

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
87	S6R16	C-3	29-O	7.96	331.3	1290.67	30.00	9.94	39.94	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.2	0.035	1.546	3827.	3.040E-05	7.744E-08	1.5024E+06	2.827E+06	3.067E-02	0.116

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	229.1	5.502E+00	5.183E-03	5.900E-03	0.1690	0.1924
98	0.660	-0.107	214.6	4.380E+00	4.071E-03	4.625E-03	0.1327	0.1508
96	0.660	0.107	236.5	8.363E+00	7.934E-03	9.041E-03	0.2587	0.2947
97	0.660	0.250	237.3	5.091E+00	4.833E-03	5.508E-03	0.1576	0.1796
60	0.660	0.400	241.3	9.102E+00	8.673E-03	9.889E-03	0.2828	0.3224
65	0.700	0.500	251.1	1.057E+01	1.016E-02	1.160E-02	0.3313	0.3783
99	0.750	0.178	237.7	6.118E+00	5.811E-03	6.622E-03	0.1894	0.2159
100	0.755	0.400	223.0	9.078E+00	8.502E-03	9.671E-03	0.2772	0.3153
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 13:10.42
DATE RECORDED: 8-JUN-95
TIME RECORDED: 22:40.26
000011112

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
88	S6R10	C-3	29-0	7.96	332.3	1290.67	30.00	4.94	34.94	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.2	0.035	1.551	3827.	3.049E-05	7.743E-08	1.5068E+06	2.835E+06	3.072E-02	0.112

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	224.3	8.515E+00	7.985E-03	9.084E-03	0.2599	0.2957
6	0.060	0.000	205.6	6.570E+00	6.055E-03	6.872E-03	0.1971	0.2237
7	0.080	0.000	190.9	5.544E+00	5.041E-03	5.712E-03	0.1641	0.1859
8	0.100	0.000	190.0	5.138E+00	4.668E-03	5.289E-03	0.1520	0.1722
10	0.150	0.000	189.9	4.143E+00	3.764E-03	4.264E-03	0.1225	0.1388
16	0.192	0.000	183.1	3.657E+00	3.302E-03	3.737E-03	0.1075	0.1217
20	0.250	0.000	177.4	3.779E+00	3.394E-03	3.839E-03	0.1105	0.1250
23	0.300	0.000	172.7	3.588E+00	3.209E-03	3.628E-03	0.1045	0.1181
30	0.350	0.000	182.1	3.501E+00	3.158E-03	3.574E-03	0.1028	0.1163
31	0.400	0.000	175.7	3.460E+00	3.103E-03	3.509E-03	0.1010	0.1142
33	0.450	0.000	185.0	4.082E+00	3.692E-03	4.180E-03	0.1202	0.1361
34	0.500	0.000	194.4	5.596E+00	5.105E-03	5.786E-03	0.1662	0.1883
37	0.550	0.000	201.9	6.846E+00	6.288E-03	7.133E-03	0.2047	0.2322
38	0.600	0.000	208.0	7.709E+00	7.120E-03	8.084E-03	0.2318	0.2632
40	0.650	0.000	210.8	7.765E+00	7.191E-03	8.167E-03	0.2341	0.2658
41	0.700	0.000	219.2	8.006E+00	7.472E-03	8.495E-03	0.2432	0.2765
43	0.750	0.000	219.9	7.704E+00	7.194E-03	8.180E-03	0.2342	0.2663
46	0.850	0.000	222.2	7.436E+00	6.959E-03	7.915E-03	0.2265	0.2577
49	0.950	0.000	219.8	5.747E+00	5.367E-03	6.102E-03	0.1747	0.1986
86	0.125	0.055	209.4	6.117E+00	5.658E-03	6.425E-03	0.1842	0.2091
11	0.150	0.091	204.7	4.632E+00	4.266E-03	4.841E-03	0.1389	0.1576
17	0.192	0.107	232.9	4.523E+00	4.276E-03	4.870E-03	0.1392	0.1585
87	0.300	-0.106	182.3	4.032E+00	3.638E-03	4.117E-03	0.1184	0.1340
88	0.300	0.061	185.7	3.857E+00	3.491E-03	3.953E-03	0.1136	0.1287
89	0.300	0.122	211.4	6.314E+00	5.850E-03	6.645E-03	0.1904	0.2163
24	0.300	0.160	216.1	6.438E+00	5.991E-03	6.809E-03	0.1950	0.2217
25	0.300	0.221	224.8	5.281E+00	4.955E-03	5.637E-03	0.1613	0.1835
90	0.400	-0.107	186.3	3.445E+00	3.119E-03	3.532E-03	0.1015	0.1150
32	0.400	0.107	201.5	4.827E+00	4.432E-03	5.028E-03	0.1443	0.1637
52	0.400	0.250	239.9	6.679E+00	6.356E-03	7.246E-03	0.2069	0.2359
91	0.425	0.061	186.8	3.504E+00	3.174E-03	3.595E-03	0.1033	0.1170
92	0.425	0.178	226.3	7.009E+00	6.585E-03	7.494E-03	0.2144	0.2439
93	0.500	-0.107	183.6	3.044E+00	2.749E-03	3.112E-03	0.0895	0.1013
35	0.500	0.107	195.4	5.046E+00	4.607E-03	5.222E-03	0.1500	0.1700
94	0.500	0.178	219.8	7.245E+00	6.766E-03	7.693E-03	0.2202	0.2504
53	0.500	0.250	231.7	7.678E+00	7.251E-03	8.257E-03	0.2360	0.2688
95	0.600	-0.250	204.1	3.168E+00	2.916E-03	3.309E-03	0.0949	0.1077
39	0.600	0.107	208.0	5.918E+00	5.466E-03	6.206E-03	0.1779	0.2020

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 13:10 42
DATE RECORDED: 8-JUN 95
TIME RECORDED: 22:40 26
000011113

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
88	S6R10	C-3	29-0	7.96	332.3	1290.67	30.00	4.94	34.94	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.2	0.035	1.551	3827.	3.049E-05	7.743E-08	1.5068E+06	2.835E+06	3.072E-02	0.112

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	230.8	7.753E+00	7.315E-03	8.330E-03	0.2381	0.2712
98	0.660	-0.107	210.7	5.987E+00	5.543E-03	6.295E-03	0.1804	0.2049
96	0.660	0.107	215.7	6.633E+00	6.170E-03	7.012E-03	0.2009	0.2283
97	0.660	0.250	236.8	7.948E+00	7.542E-03	8.595E-03	0.2455	0.2798
60	0.660	0.400	240.1	1.013E+01	9.646E-03	1.100E-02	0.3140	0.3580
65	0.700	0.500	255.7	1.237E+01	1.195E-02	1.365E-02	0.3890	0.4444
99	0.750	0.178	241.2	7.586E+00	7.228E-03	8.242E-03	0.2353	0.2683
100	0.755	0.400	227.0	9.910E+00	9.317E-03	1.060E-02	0.3033	0.3452
101	0.800	-0.250	225.3	3.050E+00	2.863E-03	3.258E-03	0.0932	0.1061
45	0.800	0.107	231.5	7.157E+00	6.757E-03	7.695E-03	0.2200	0.2505
56	0.800	0.250	241.4	8.059E+00	7.681E-03	8.758E-03	0.2500	0.2851
66	0.800	0.500	220.4	1.035E+01	9.670E-03	1.100E-02	0.3148	0.3580
70	0.800	0.600	233.1	1.165E+01	1.102E-02	1.255E-02	0.3586	0.4084
75	0.800	0.750	230.4	7.592E+00	7.161E-03	8.153E-03	0.2331	0.2654
102	0.886	0.732	223.8	1.004E+01	9.412E-03	1.071E-02	0.3064	0.3486
103	0.900	-0.107	222.2	6.139E+00	5.746E-03	6.535E-03	0.1870	0.2127
57	0.900	0.250	238.1	6.849E+00	6.507E-03	7.416E-03	0.2118	0.2414

RUN 88

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:10:46
DATE RECORDED: 8-JUN-95
TIME RECORDED: 22:57:46
000011114

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
89	S6R 6	C-3	29-0	7.93	206.6	1244.67	30.00	9.94	39.94	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.1	0.022	0.977	3753.	1.998E-05	7.493E-08	1.0004E+06	1.882E+06	2.423E-02	0.131

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	236.0	6.237E+00	6.184E-03	7.054E-03	0.2552	0.2911
6	0.060	0.000	221.2	4.771E+00	4.662E-03	5.307E-03	0.1924	0.2190
7	0.080	0.000	215.5	4.773E+00	4.638E-03	5.276E-03	0.1914	0.2177
8	0.100	0.000	210.2	3.967E+00	3.835E-03	4.359E-03	0.1583	0.1799
10	0.150	0.000	208.6	3.312E+00	3.197E-03	3.633E-03	0.1319	0.1500
16	0.192	0.000	202.5	3.056E+00	2.932E-03	3.330E-03	0.1210	0.1374
20	0.250	0.000	188.7	3.087E+00	2.924E-03	3.314E-03	0.1207	0.1368
23	0.300	0.000	181.2	2.931E+00	2.756E-03	3.121E-03	0.1137	0.1288
30	0.350	0.000	189.2	2.857E+00	2.707E-03	3.069E-03	0.1117	0.1267
31	0.400	0.000	182.0	2.728E+00	2.567E-03	2.908E-03	0.1059	0.1200
33	0.450	0.000	184.6	2.637E+00	2.488E-03	2.819E-03	0.1027	0.1163
34	0.500	0.000	182.4	2.692E+00	2.534E-03	2.871E-03	0.1046	0.1185
37	0.550	0.000	181.6	2.657E+00	2.500E-03	2.831E-03	0.1032	0.1169
38	0.600	0.000	188.7	2.899E+00	2.745E-03	3.112E-03	0.1133	0.1284
40	0.650	0.000	197.8	2.860E+00	2.732E-03	3.100E-03	0.1127	0.1280
41	0.700	0.000	200.1	2.824E+00	2.704E-03	3.070E-03	0.1116	0.1267
43	0.750	0.000	203.2	3.224E+00	3.096E-03	3.516E-03	0.1278	0.1451
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	221.5	4.220E+00	4.125E-03	4.696E-03	0.1702	0.1938
11	0.150	0.091	225.9	3.723E+00	3.654E-03	4.162E-03	0.1508	0.1718
17	0.192	0.107	249.8	3.306E+00	3.323E-03	3.798E-03	0.1371	0.1567
87	0.300	-0.106	192.3	3.164E+00	3.007E-03	3.410E-03	0.1241	0.1407
88	0.300	0.061	191.8	3.064E+00	2.910E-03	3.300E-03	0.1201	0.1362
89	0.300	0.122	202.8	3.383E+00	3.247E-03	3.688E-03	0.1340	0.1522
24	0.300	0.160	209.9	3.591E+00	3.471E-03	3.945E-03	0.1432	0.1628
25	0.300	0.221	229.0	3.507E+00	3.453E-03	3.935E-03	0.1425	0.1624
90	0.400	-0.107	193.6	2.710E+00	2.578E-03	2.925E-03	0.1064	0.1207
32	0.400	0.107	198.0	2.703E+00	2.583E-03	2.931E-03	0.1066	0.1210
52	0.400	0.250	232.4	3.137E+00	3.099E-03	3.534E-03	0.1279	0.1458
91	0.425	0.061	192.9	2.613E+00	2.485E-03	2.818E-03	0.1025	0.1163
92	0.425	0.178	214.0	2.848E+00	2.764E-03	3.143E-03	0.1141	0.1297
93	0.500	-0.107	192.1	2.552E+00	2.425E-03	2.750E-03	0.1001	0.1135
35	0.500	0.107	192.9	2.473E+00	2.351E-03	2.666E-03	0.0970	0.1100
94	0.500	0.178	211.6	2.924E+00	2.830E-03	3.218E-03	0.1168	0.1328
53	0.500	0.250	228.8	2.929E+00	2.883E-03	3.286E-03	0.1190	0.1356
95	0.600	-0.250	221.1	2.467E+00	2.410E-03	2.744E-03	0.0995	0.1132
39	0.600	0.107	203.3	2.679E+00	2.572E-03	2.921E-03	0.1062	0.1206

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:10:46
DATE RECORDED: 8-JUN-95
TIME RECORDED: 22:57:46
000011115

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
89	S6R 6	C-3	29-O	7.93	206.6	1244.67	30.00	9.94	39.94	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.1	0.022	0.977	3753.	1.998E-05	7.493E-08	1.0004E+06	1.882E+06	2.423E-02	0.131

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	231.3	2.653E+00	2.619E-03	2.985E-03	0.1081	0.1232
98	0.660	-0.107	207.0	2.601E+00	2.507E-03	2.848E-03	0.1035	0.1176
96	0.660	0.107	210.7	3.003E+00	2.904E-03	3.302E-03	0.1199	0.1363
97	0.660	0.250	230.4	2.473E+00	2.438E-03	2.779E-03	0.1006	0.1147
60	0.660	0.400	233.3	3.554E+00	3.514E-03	4.007E-03	0.1450	0.1654
65	0.700	0.500	238.1	4.029E+00	4.003E-03	4.567E-03	0.1652	0.1885
99	0.750	0.178	230.4	2.298E+00	2.265E-03	2.582E-03	0.0935	0.1066
100	0.755	0.400	206.3	2.712E+00	2.612E-03	2.967E-03	0.1078	0.1225
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:10:50
DATE RECORDED: 8-JUN-95
TIME RECORDED: 23:01:32
000011116

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
90	S6R12	C-3	29-0	7.93	208.8	1241.67	30.00	4.93	34.93	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.9	0.022	0.987	3748.	2.023E-05	7.472E-08	1.0148E+06	1.910E+06	2.434E-02	0.126

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	225.0	6.422E+00	6.317E-03	7.196E-03	0.2595	0.2956
6	0.060	0.000	212.9	5.263E+00	5.116E-03	5.818E-03	0.2101	0.2390
7	0.080	0.000	197.8	4.033E+00	3.863E-03	4.384E-03	0.1587	0.1801
8	0.100	0.000	198.4	3.880E+00	3.719E-03	4.222E-03	0.1528	0.1734
10	0.150	0.000	198.0	3.068E+00	2.940E-03	3.337E-03	0.1208	0.1371
16	0.192	0.000	192.2	2.771E+00	2.641E-03	2.995E-03	0.1085	0.1230
20	0.250	0.000	180.5	2.838E+00	2.675E-03	3.029E-03	0.1099	0.1244
23	0.300	0.000	173.3	2.632E+00	2.464E-03	2.788E-03	0.1012	0.1145
30	0.350	0.000	181.4	2.546E+00	2.402E-03	2.720E-03	0.0987	0.1117
31	0.400	0.000	173.7	2.435E+00	2.280E-03	2.580E-03	0.0937	0.1060
33	0.450	0.000	175.7	2.348E+00	2.202E-03	2.493E-03	0.0905	0.1024
34	0.500	0.000	173.3	2.318E+00	2.169E-03	2.455E-03	0.0891	0.1008
37	0.550	0.000	173.6	2.311E+00	2.163E-03	2.448E-03	0.0889	0.1006
38	0.600	0.000	178.0	2.438E+00	2.292E-03	2.595E-03	0.0941	0.1066
40	0.650	0.000	182.9	2.304E+00	2.176E-03	2.466E-03	0.0894	0.1013
41	0.700	0.000	190.6	2.349E+00	2.235E-03	2.535E-03	0.0918	0.1041
43	0.750	0.000	192.6	2.197E+00	2.094E-03	2.375E-03	0.0860	0.0976
46	0.850	0.000	203.0	1.730E+00	1.666E-03	1.892E-03	0.0684	0.0777
49	0.950	0.000	250.1	1.246E+00	1.257E-03	1.437E-03	0.0516	0.0590
86	0.125	0.055	206.8	3.324E+00	3.212E-03	3.650E-03	0.1320	0.1499
11	0.150	0.091	215.4	3.375E+00	3.289E-03	3.741E-03	0.1351	0.1537
17	0.192	0.107	239.8	2.946E+00	2.941E-03	3.357E-03	0.1208	0.1379
87	0.300	-0.106	183.5	2.937E+00	2.776E-03	3.145E-03	0.1140	0.1292
88	0.300	0.061	184.5	2.661E+00	2.518E-03	2.853E-03	0.1034	0.1172
89	0.300	0.122	195.2	2.969E+00	2.837E-03	3.219E-03	0.1165	0.1322
24	0.300	0.160	202.7	3.109E+00	2.992E-03	3.398E-03	0.1229	0.1396
25	0.300	0.221	222.4	3.178E+00	3.118E-03	3.550E-03	0.1281	0.1458
90	0.400	-0.107	184.7	2.590E+00	2.450E-03	2.776E-03	0.1006	0.1140
32	0.400	0.107	188.8	2.477E+00	2.353E-03	2.668E-03	0.0967	0.1096
52	0.400	0.250	222.2	2.919E+00	2.863E-03	3.260E-03	0.1176	0.1339
91	0.425	0.061	183.3	2.428E+00	2.294E-03	2.599E-03	0.0942	0.1067
92	0.425	0.178	201.6	2.588E+00	2.488E-03	2.826E-03	0.1022	0.1161
93	0.500	-0.107	183.2	2.332E+00	2.203E-03	2.496E-03	0.0905	0.1025
35	0.500	0.107	180.3	2.337E+00	2.202E-03	2.493E-03	0.0904	0.1024
94	0.500	0.178	195.7	2.684E+00	2.566E-03	2.912E-03	0.1054	0.1196
53	0.500	0.250	209.1	2.883E+00	2.792E-03	3.174E-03	0.1147	0.1304
95	0.600	-0.250	204.4	2.242E+00	2.161E-03	2.455E-03	0.0888	0.1009
39	0.600	0.107	189.5	2.308E+00	2.194E-03	2.487E-03	0.0901	0.1022

RUN 90

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:10:50
DATE RECORDED: 8-JUN-95
TIME RECORDED: 23:01:32
000011117

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
90	S6R12	C-3	29-O	7.93	208.8	1241.67	30.00	4.93	34.93	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.9	0.022	0.987	3748.	2.023E-05	7.472E-08	1.0148E+06	1.910E+06	2.434E-02	0.126

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	208.8	2.358E+00	2.283E-03	2.595E-03	0.0938	0.1066
98	0.660	-0.107	192.5	2.333E+00	2.224E-03	2.522E-03	0.0913	0.1036
96	0.660	0.107	195.9	2.681E+00	2.564E-03	2.909E-03	0.1053	0.1195
97	0.660	0.250	213.0	2.222E+00	2.160E-03	2.456E-03	0.0887	0.1009
60	0.660	0.400	218.3	3.620E+00	3.538E-03	4.026E-03	0.1453	0.1654
65	0.700	0.500	240.0	3.878E+00	3.872E-03	4.420E-03	0.1591	0.1816
99	0.750	0.178	217.1	2.084E+00	2.034E-03	2.315E-03	0.0836	0.0951
100	0.755	0.400	200.3	2.730E+00	2.622E-03	2.977E-03	0.1077	0.1223
101	0.800	-0.250	241.0	1.694E+00	1.693E-03	1.933E-03	0.0695	0.0794
45	0.800	0.107	214.0	2.040E+00	1.986E-03	2.258E-03	0.0816	0.0928
56	0.800	0.250	235.8	1.797E+00	1.786E-03	2.038E-03	0.0734	0.0837
66	0.800	0.500	204.4	2.913E+00	2.808E-03	3.190E-03	0.1153	0.1310
70	0.800	0.600	208.7	3.908E+00	3.783E-03	4.300E-03	0.1554	0.1766
75	0.800	0.750	254.1	3.248E+00	3.289E-03	3.762E-03	0.1351	0.1545
102	0.886	0.732	211.9	3.620E+00	3.515E-03	3.997E-03	0.1444	0.1642
103	0.900	-0.107	220.2	1.708E+00	1.672E-03	1.903E-03	0.0687	0.0782
57	0.900	0.250	250.4	1.902E+00	1.919E-03	2.194E-03	0.0788	0.0901

RUN 90

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 13:10 54
DATE RECORDED: 8-JUN-95
TIME RECORDED: 23:37 01
000011118

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
91	S10R 1	J-2&K-3	29-O	7.99	574.7	1320.67	30.00	9.95	39.95	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.0	0.059	2.649	3877.	5.075E-05	7.886E-08	2.4952E+06	4.695E+06	4.031E-02	0.371

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	586.4	9.855E+00	1.342E-02	1.637E-02	0.3330	0.4060
6	0.060	0.000	571.7	7.226E+00	9.647E-03	1.171E-02	0.2393	0.2906
7	0.080	0.000	560.4	6.057E+00	7.968E-03	9.643E-03	0.1977	0.2392
8	0.100	0.000	552.3	5.742E+00	7.472E-03	9.023E-03	0.1854	0.2238
10	0.150	0.000	534.1	4.719E+00	5.999E-03	7.210E-03	0.1488	0.1789
16	0.192	0.000	518.5	4.057E+00	5.058E-03	6.055E-03	0.1255	0.1502
20	0.250	0.000	513.7	4.133E+00	5.121E-03	6.124E-03	0.1271	0.1519
23	0.300	0.000	506.7	3.779E+00	4.643E-03	5.542E-03	0.1152	0.1375
30	0.350	0.000	504.8	3.531E+00	4.328E-03	5.163E-03	0.1074	0.1281
31	0.400	0.000	505.1	3.816E+00	4.679E-03	5.583E-03	0.1161	0.1385
33	0.450	0.000	523.4	7.186E+00	9.013E-03	1.080E-02	0.2236	0.2680
34	0.500	0.000	535.9	9.426E+00	1.201E-02	1.444E-02	0.2980	0.3583
37	0.550	0.000	540.2	9.577E+00	1.227E-02	1.477E-02	0.3044	0.3664
38	0.600	0.000	553.1	1.050E+01	1.367E-02	1.652E-02	0.3392	0.4097
40	0.650	0.000	562.9	9.660E+00	1.275E-02	1.544E-02	0.3163	0.3830
41	0.700	0.000	569.1	9.244E+00	1.230E-02	1.492E-02	0.3051	0.3702
43	0.750	0.000	567.0	8.894E+00	1.180E-02	1.431E-02	0.2928	0.3550
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	546.9	5.744E+00	7.424E-03	8.952E-03	0.1842	0.2221
11	0.150	0.091	533.2	5.360E+00	6.807E-03	8.178E-03	0.1689	0.2029
17	0.192	0.107	521.7	4.926E+00	6.166E-03	7.387E-03	0.1530	0.1832
87	0.300	-0.106	508.4	4.468E+00	5.500E-03	6.568E-03	0.1364	0.1629
88	0.300	0.061	509.8	4.048E+00	4.992E-03	5.963E-03	0.1238	0.1479
89	0.300	0.122	511.1	4.878E+00	6.025E-03	7.200E-03	0.1495	0.1786
24	0.300	0.160	509.2	5.157E+00	6.355E-03	7.591E-03	0.1577	0.1883
25	0.300	0.221	506.1	5.010E+00	6.151E-03	7.341E-03	0.1526	0.1821
90	0.400	-0.107	503.1	3.666E+00	4.485E-03	5.349E-03	0.1113	0.1327
32	0.400	0.107	502.3	3.467E+00	4.236E-03	5.052E-03	0.1051	0.1253
52	0.400	0.250	504.1	4.326E+00	5.298E-03	6.320E-03	0.1314	0.1568
91	0.425	0.061	504.9	3.336E+00	4.090E-03	4.880E-03	0.1015	0.1211
92	0.425	0.178	505.8	4.241E+00	5.204E-03	6.211E-03	0.1291	0.1541
93	0.500	-0.107	507.6	3.177E+00	3.907E-03	4.665E-03	0.0969	0.1157
35	0.500	0.107	508.8	2.992E+00	3.686E-03	4.402E-03	0.0914	0.1092
94	0.500	0.178	512.1	3.801E+00	4.702E-03	5.619E-03	0.1166	0.1394
53	0.500	0.250	516.6	4.608E+00	5.731E-03	6.857E-03	0.1422	0.1701
95	0.600	-0.250	527.3	3.610E+00	4.551E-03	5.460E-03	0.1129	0.1354
39	0.600	0.107	540.2	5.740E+00	7.354E-03	8.852E-03	0.1824	0.2196

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:10 54
DATE RECORDED: 8-JUN-95
TIME RECORDED: 23:37.01
000011119

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
91	S10R 1	J-2&K-3	29-O	7.99	574.7	1320.67	30.00	9.95	39.95	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.0	0.059	2.649	3877.	5.075E-05	7.886E-08	2.4952E+06	4.695E+06	4.031E-02	0.371

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	536.9	3.607E+00	4.603E-03	5.536E-03	0.1142	0.1373
98	0.660	-0.107	558.2	9.489E+00	1.244E-02	1.505E-02	0.3087	0.3734
96	0.660	0.107	566.2	8.842E+00	1.172E-02	1.420E-02	0.2907	0.3524
97	0.660	0.250	557.4	3.485E+00	4.566E-03	5.522E-03	0.1133	0.1370
60	0.660	0.400	585.7	9.702E+00	1.320E-02	1.609E-02	0.3275	0.3992
65	0.700	0.500	599.1	7.015E+00	9.721E-03	1.190E-02	0.2411	0.2952
99	0.750	0.178	575.9	8.068E+00	1.083E-02	1.317E-02	0.2687	0.3267
100	0.755	0.400	598.3	6.387E+00	8.841E-03	1.082E-02	0.2193	0.2684
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:10:58
DATE RECORDED: 8-JUN-95
TIME RECORDED: 23:51:34
000011120

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
92	S10R17	J-2&K-3	29-O	7.99	575.8	1320.67	30.00	9.96	39.96	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.0	0.059	2.654	3877.	5.084E-05	7.886E-08	2.5000E+06	4.704E+06	4.035E-02	0.380

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	565.9	1.009E+01	1.337E-02	1.620E-02	0.3312	0.4015
6	0.060	0.000	552.7	7.365E+00	9.590E-03	1.158E-02	0.2377	0.2871
7	0.080	0.000	544.6	6.137E+00	7.907E-03	9.529E-03	0.1960	0.2362
8	0.100	0.000	541.0	5.783E+00	7.417E-03	8.929E-03	0.1838	0.2213
10	0.150	0.000	530.1	4.646E+00	5.877E-03	7.056E-03	0.1457	0.1749
16	0.192	0.000	522.9	4.024E+00	5.044E-03	6.044E-03	0.1250	0.1498
20	0.250	0.000	524.5	3.912E+00	4.914E-03	5.891E-03	0.1218	0.1460
23	0.300	0.000	522.1	3.574E+00	4.475E-03	5.362E-03	0.1109	0.1329
30	0.350	0.000	519.3	3.273E+00	4.084E-03	4.890E-03	0.1012	0.1212
31	0.400	0.000	514.7	3.064E+00	3.802E-03	4.547E-03	0.0942	0.1127
33	0.450	0.000	516.4	3.270E+00	4.066E-03	4.865E-03	0.1008	0.1206
34	0.500	0.000	519.3	3.564E+00	4.448E-03	5.326E-03	0.1102	0.1320
37	0.550	0.000	524.7	3.336E+00	4.192E-03	5.026E-03	0.1039	0.1246
38	0.600	0.000	555.8	9.339E+00	1.221E-02	1.476E-02	0.3026	0.3657
40	0.650	0.000	568.1	1.032E+01	1.372E-02	1.664E-02	0.3400	0.4124
41	0.700	0.000	568.6	9.910E+00	1.318E-02	1.598E-02	0.3266	0.3961
43	0.750	0.000	564.4	9.409E+00	1.244E-02	1.507E-02	0.3084	0.3736
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	539.3	5.738E+00	7.344E-03	8.838E-03	0.1820	0.2190
11	0.150	0.091	530.0	5.398E+00	6.827E-03	8.196E-03	0.1692	0.2031
17	0.192	0.107	527.8	4.898E+00	6.177E-03	7.411E-03	0.1531	0.1837
87	0.300	-0.106	520.7	4.467E+00	5.583E-03	6.687E-03	0.1384	0.1657
88	0.300	0.061	525.3	3.858E+00	4.850E-03	5.815E-03	0.1202	0.1441
89	0.300	0.122	525.6	4.781E+00	6.014E-03	7.212E-03	0.1490	0.1787
24	0.300	0.160	522.8	4.930E+00	6.180E-03	7.406E-03	0.1532	0.1835
25	0.300	0.221	520.5	5.011E+00	6.262E-03	7.500E-03	0.1552	0.1859
90	0.400	-0.107	515.9	3.814E+00	4.740E-03	5.670E-03	0.1175	0.1405
32	0.400	0.107	516.3	3.505E+00	4.357E-03	5.213E-03	0.1080	0.1292
52	0.400	0.250	518.8	4.367E+00	5.447E-03	6.521E-03	0.1350	0.1616
91	0.425	0.061	516.1	3.441E+00	4.278E-03	5.118E-03	0.1060	0.1268
92	0.425	0.178	518.0	4.138E+00	5.155E-03	6.170E-03	0.1278	0.1529
93	0.500	-0.107	528.0	6.018E+00	7.592E-03	9.110E-03	0.1882	0.2258
35	0.500	0.107	517.6	3.085E+00	3.841E-03	4.597E-03	0.0952	0.1139
94	0.500	0.178	521.1	3.880E+00	4.853E-03	5.813E-03	0.1203	0.1441
53	0.500	0.250	522.6	4.298E+00	5.385E-03	6.453E-03	0.1335	0.1599
95	0.600	-0.250	537.0	3.652E+00	4.660E-03	5.605E-03	0.1155	0.1389
39	0.600	0.107	538.8	3.992E+00	5.106E-03	6.143E-03	0.1265	0.1523

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:10:58
DATE RECORDED: 8-JUN-95
TIME RECORDED: 23:51:34
000011121

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
92	S10R17	J-2&K-3	29-O	7.99	575.8	1320.67	30.00	9.96	39.96	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.0	0.059	2.654	3877.	5.084E-05	7.886E-08	2.5000E+06	4.704E+06	4.035E-02	0.380

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	541.3	3.583E+00	4.598E-03	5.536E-03	0.1140	0.1372
98	0.660	-0.107	555.7	6.970E+00	9.112E-03	1.101E-02	0.2258	0.2729
96	0.660	0.107	556.1	4.884E+00	6.388E-03	7.722E-03	0.1583	0.1914
97	0.660	0.250	555.9	3.580E+00	4.681E-03	5.659E-03	0.1160	0.1402
60	0.660	0.400	582.8	1.038E+01	1.407E-02	1.714E-02	0.3488	0.4248
65	0.700	0.500	577.3	4.965E+00	6.679E-03	8.122E-03	0.1655	0.2013
99	0.750	0.178	558.1	5.632E+00	7.386E-03	8.933E-03	0.1830	0.2214
100	0.755	0.400	573.8	4.763E+00	6.378E-03	7.748E-03	0.1581	0.1920
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

RUN 92

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11:02
DATE RECORDED: 8-JUN-95
TIME RECORDED: 23:54.38
000011122

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
93	S10R 3	J-2&K-3	29-0	7.99	576.0	1319.67	30.00	4.93	34.93	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.9	0.059	2.655	3876.	5.090E-05	7.879E-08	2.5039E+06	4.712E+06	4.035E-02	0.387

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	580.4	8.949E+00	1.210E-02	1.473E-02	0.3000	0.3652
6	0.060	0.000	567.3	6.559E+00	8.718E-03	1.057E-02	0.2161	0.2620
7	0.080	0.000	558.0	5.345E+00	7.018E-03	8.488E-03	0.1739	0.2104
8	0.100	0.000	553.1	5.054E+00	6.593E-03	7.964E-03	0.1634	0.1974
10	0.150	0.000	540.5	3.843E+00	4.931E-03	5.937E-03	0.1222	0.1471
16	0.192	0.000	531.2	3.462E+00	4.391E-03	5.274E-03	0.1088	0.1307
20	0.250	0.000	529.8	3.319E+00	4.202E-03	5.045E-03	0.1041	0.1250
23	0.300	0.000	526.2	3.090E+00	3.894E-03	4.671E-03	0.0965	0.1158
30	0.350	0.000	524.3	2.903E+00	3.650E-03	4.376E-03	0.0905	0.1085
31	0.400	0.000	521.0	2.667E+00	3.339E-03	4.000E-03	0.0827	0.0991
33	0.450	0.000	524.2	2.692E+00	3.384E-03	4.056E-03	0.0839	0.1005
34	0.500	0.000	528.2	2.757E+00	3.483E-03	4.180E-03	0.0863	0.1036
37	0.550	0.000	533.2	2.697E+00	3.429E-03	4.121E-03	0.0850	0.1021
38	0.600	0.000	560.1	7.944E+00	1.046E-02	1.266E-02	0.2592	0.3137
40	0.650	0.000	572.2	9.228E+00	1.235E-02	1.499E-02	0.3060	0.3716
41	0.700	0.000	581.6	8.870E+00	1.202E-02	1.463E-02	0.2978	0.3627
43	0.750	0.000	579.4	8.423E+00	1.138E-02	1.385E-02	0.2820	0.3431
46	0.850	0.000	583.4	8.312E+00	1.129E-02	1.375E-02	0.2798	0.3409
49	0.950	0.000	577.2	6.270E+00	8.445E-03	1.027E-02	0.2093	0.2545
86	0.125	0.055	550.0	4.931E+00	6.408E-03	7.734E-03	0.1588	0.1917
11	0.150	0.091	540.4	4.572E+00	5.868E-03	7.064E-03	0.1454	0.1751
17	0.192	0.107	534.5	4.221E+00	5.376E-03	6.462E-03	0.1332	0.1602
87	0.300	-0.106	526.7	3.906E+00	4.926E-03	5.909E-03	0.1221	0.1464
88	0.300	0.061	529.5	3.319E+00	4.201E-03	5.043E-03	0.1041	0.1250
89	0.300	0.122	531.0	4.078E+00	5.171E-03	6.211E-03	0.1282	0.1539
24	0.300	0.160	529.1	4.229E+00	5.349E-03	6.421E-03	0.1326	0.1591
25	0.300	0.221	527.9	4.352E+00	5.497E-03	6.597E-03	0.1362	0.1635
90	0.400	-0.107	521.6	3.050E+00	3.822E-03	4.579E-03	0.0947	0.1135
32	0.400	0.107	522.4	2.987E+00	3.746E-03	4.489E-03	0.0928	0.1112
52	0.400	0.250	525.0	3.842E+00	4.835E-03	5.798E-03	0.1198	0.1437
91	0.425	0.061	523.2	2.743E+00	3.444E-03	4.128E-03	0.0854	0.1023
92	0.425	0.178	524.4	3.529E+00	4.437E-03	5.320E-03	0.1100	0.1319
93	0.500	-0.107	527.3	2.787E+00	3.517E-03	4.220E-03	0.0872	0.1046
35	0.500	0.107	526.2	2.554E+00	3.219E-03	3.861E-03	0.0798	0.0957
94	0.500	0.178	529.5	3.348E+00	4.236E-03	5.086E-03	0.1050	0.1260
53	0.500	0.250	530.9	3.628E+00	4.600E-03	5.524E-03	0.1140	0.1369
95	0.600	-0.250	540.8	2.831E+00	3.634E-03	4.376E-03	0.0901	0.1084
39	0.600	0.107	543.5	2.909E+00	3.747E-03	4.515E-03	0.0929	0.1119

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11:02
DATE RECORDED: 8-JUN-95
TIME RECORDED: 23:54:38
00001112

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
93	S10R 3	J-2&K-3	29-O	7.99	576.0	1319.67	30.00	4.93	34.93	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.9	0.059	2.655	3876.	5.090E-05	7.879E-08	2.5039E+06	4.712E+06	4.035E-02	0.387

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	545.0	2.892E+00	3.733E-03	4.499E-03	0.0925	0.1115
98	0.660	-0.107	556.2	3.676E+00	4.814E-03	5.821E-03	0.1193	0.1443
96	0.660	0.107	560.1	3.646E+00	4.800E-03	5.809E-03	0.1190	0.1440
97	0.660	0.250	559.6	2.660E+00	3.500E-03	4.235E-03	0.0867	0.1050
60	0.660	0.400	592.7	1.061E+01	1.459E-02	1.783E-02	0.3617	0.4419
65	0.700	0.500	597.4	4.485E+00	6.210E-03	7.599E-03	0.1539	0.1883
99	0.750	0.178	572.3	3.676E+00	4.919E-03	5.974E-03	0.1219	0.1481
100	0.755	0.400	592.3	4.131E+00	5.680E-03	6.939E-03	0.1408	0.1720
101	0.800	-0.250	574.7	5.801E+00	7.787E-03	9.463E-03	0.1930	0.2345
45	0.800	0.107	573.2	4.583E+00	6.139E-03	7.458E-03	0.1521	0.1848
56	0.800	0.250	575.7	4.485E+00	6.028E-03	7.328E-03	0.1494	0.1816
66	0.800	0.500	617.2	1.059E+01	1.507E-02	1.856E-02	0.3736	0.4600
70	0.800	0.600	616.4	3.951E+00	5.618E-03	6.916E-03	0.1392	0.1714
75	0.800	0.750	620.1	3.535E+00	5.053E-03	6.227E-03	0.1252	0.1543
102	0.886	0.732	614.6	3.818E+00	5.416E-03	6.663E-03	0.1342	0.1651
103	0.900	-0.107	569.3	5.905E+00	7.869E-03	9.548E-03	0.1950	0.2366
57	0.900	0.250	579.7	5.777E+00	7.806E-03	9.501E-03	0.1935	0.2355

RUN 93

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 13:11 06
DATE RECORDED: 9-JUN-95
TIME RECORDED: 0:04 40
000011124

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
94	S10R 5	J-2&K-3	29-O	7.98	456.7	1321.67	30.00	9.96	39.96	0.06

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.3	0.047	2.115	3877.	4.052E-05	7.914E-08	1.9851E+06	3.735E+06	3.602E-02	0.381

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	561.6	8.944E+00	1.177E-02	1.425E-02	0.3267	0.3955
6	0.060	0.000	549.2	6.605E+00	8.550E-03	1.031E-02	0.2374	0.2864
7	0.080	0.000	541.8	5.506E+00	7.061E-03	8.501E-03	0.1960	0.2360
8	0.100	0.000	538.9	5.116E+00	6.536E-03	7.863E-03	0.1814	0.2183
10	0.150	0.000	530.2	4.094E+00	5.173E-03	6.210E-03	0.1436	0.1724
16	0.192	0.000	523.3	3.601E+00	4.511E-03	5.406E-03	0.1252	0.1501
20	0.250	0.000	521.6	3.501E+00	4.376E-03	5.242E-03	0.1215	0.1455
23	0.300	0.000	519.1	3.306E+00	4.119E-03	4.931E-03	0.1143	0.1369
30	0.350	0.000	519.5	3.048E+00	3.800E-03	4.549E-03	0.1055	0.1263
31	0.400	0.000	517.8	2.829E+00	3.520E-03	4.212E-03	0.0977	0.1169
33	0.450	0.000	522.4	2.841E+00	3.555E-03	4.259E-03	0.0987	0.1182
34	0.500	0.000	526.1	2.914E+00	3.662E-03	4.392E-03	0.1017	0.1219
37	0.550	0.000	530.1	2.685E+00	3.393E-03	4.073E-03	0.0942	0.1131
38	0.600	0.000	555.7	7.550E+00	9.857E-03	1.191E-02	0.2736	0.3307
40	0.650	0.000	569.6	8.501E+00	1.130E-02	1.371E-02	0.3138	0.3807
41	0.700	0.000	572.1	8.228E+00	1.098E-02	1.333E-02	0.3047	0.3699
43	0.750	0.000	568.3	7.759E+00	1.030E-02	1.249E-02	0.2859	0.3467
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	538.3	5.144E+00	6.567E-03	7.900E-03	0.1823	0.2193
11	0.150	0.091	530.9	4.768E+00	6.030E-03	7.239E-03	0.1674	0.2010
17	0.192	0.107	528.2	4.307E+00	5.428E-03	6.513E-03	0.1507	0.1808
87	0.300	-0.106	520.9	3.923E+00	4.899E-03	5.867E-03	0.1360	0.1629
88	0.300	0.061	522.1	3.538E+00	4.425E-03	5.302E-03	0.1228	0.1472
89	0.300	0.122	524.0	4.247E+00	5.325E-03	6.383E-03	0.1478	0.1772
24	0.300	0.160	523.1	4.385E+00	5.491E-03	6.580E-03	0.1524	0.1827
25	0.300	0.221	522.6	4.365E+00	5.463E-03	6.545E-03	0.1517	0.1817
90	0.400	-0.107	519.7	3.138E+00	3.913E-03	4.685E-03	0.1086	0.1301
32	0.400	0.107	519.6	3.042E+00	3.792E-03	4.540E-03	0.1053	0.1260
52	0.400	0.250	523.2	3.831E+00	4.798E-03	5.750E-03	0.1332	0.1596
91	0.425	0.061	520.8	2.929E+00	3.658E-03	4.380E-03	0.1015	0.1216
92	0.425	0.178	522.9	3.615E+00	4.526E-03	5.423E-03	0.1256	0.1505
93	0.500	-0.107	526.0	2.722E+00	3.421E-03	4.102E-03	0.0950	0.1139
35	0.500	0.107	524.2	2.543E+00	3.188E-03	3.822E-03	0.0885	0.1061
94	0.500	0.178	528.1	3.315E+00	4.177E-03	5.012E-03	0.1160	0.1391
53	0.500	0.250	529.7	3.471E+00	4.383E-03	5.261E-03	0.1217	0.1460
95	0.600	-0.250	543.0	2.871E+00	3.687E-03	4.440E-03	0.1023	0.1233
39	0.600	0.107	540.8	2.786E+00	3.568E-03	4.294E-03	0.0990	0.1192

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11:06
DATE RECORDED: 9-JUN-95
TIME RECORDED: 0:04:40
00001112S

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
94	S10R 5	J-2&K-3	29-O	7.98	456.7	1321.67	30.00	9.96	39.96	0.06

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.3	0.047	2.115	3877.	4.052E-05	7.914E-08	1.9851E+06	3.735E+06	3.602E-02	0.381

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	543.8	2.906E+00	3.736E-03	4.501E-03	0.1037	0.1249
98	0.660	-0.107	553.5	2.842E+00	3.700E-03	4.469E-03	0.1027	0.1241
96	0.660	0.107	557.2	3.310E+00	4.329E-03	5.234E-03	0.1202	0.1453
97	0.660	0.250	557.1	2.534E+00	3.315E-03	4.007E-03	0.0920	0.1112
60	0.660	0.400	579.4	8.942E+00	1.205E-02	1.466E-02	0.3344	0.4069
65	0.700	0.500	575.6	4.052E+00	5.432E-03	6.601E-03	0.1508	0.1832
99	0.750	0.178	561.8	2.762E+00	3.635E-03	4.401E-03	0.1009	0.1222
100	0.755	0.400	572.3	2.884E+00	3.849E-03	4.673E-03	0.1068	0.1297
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11:10
DATE RECORDED: 9-JUN-95
TIME RECORDED: 0:07:05
000011126

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
95	S10R 7	J-2&K-3	29-0	7.98	458.1	1319.67	30.00	4.92	34.92	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.048	2.121	3874.	4.070E-05	7.900E-08	1.9961E+06	3.756E+06	3.607E-02	0.385

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	574.8	8.024E+00	1.077E-02	1.309E-02	0.2987	0.3630
6	0.060	0.000	561.6	5.901E+00	7.784E-03	9.425E-03	0.2158	0.2613
7	0.080	0.000	551.6	4.831E+00	6.289E-03	7.594E-03	0.1744	0.2106
8	0.100	0.000	545.6	4.531E+00	5.854E-03	7.057E-03	0.1623	0.1957
10	0.150	0.000	532.7	3.485E+00	4.429E-03	5.321E-03	0.1228	0.1475
16	0.192	0.000	524.9	3.075E+00	3.869E-03	4.639E-03	0.1073	0.1286
20	0.250	0.000	522.0	2.981E+00	3.738E-03	4.479E-03	0.1036	0.1242
23	0.300	0.000	520.0	2.864E+00	3.581E-03	4.289E-03	0.0993	0.1189
30	0.350	0.000	522.3	2.583E+00	3.239E-03	3.882E-03	0.0898	0.1076
31	0.400	0.000	522.9	2.379E+00	2.985E-03	3.578E-03	0.0828	0.0992
33	0.450	0.000	527.3	2.317E+00	2.925E-03	3.509E-03	0.0811	0.0973
34	0.500	0.000	530.2	2.418E+00	3.062E-03	3.677E-03	0.0849	0.1019
37	0.550	0.000	534.5	2.287E+00	2.912E-03	3.501E-03	0.0807	0.0971
38	0.600	0.000	556.1	5.998E+00	7.855E-03	9.496E-03	0.2178	0.2633
40	0.650	0.000	569.7	7.732E+00	1.031E-02	1.251E-02	0.2859	0.3469
41	0.700	0.000	579.5	7.438E+00	1.005E-02	1.223E-02	0.2786	0.3391
43	0.750	0.000	578.0	7.058E+00	9.516E-03	1.158E-02	0.2638	0.3209
46	0.850	0.000	583.9	6.964E+00	9.465E-03	1.153E-02	0.2624	0.3198
49	0.950	0.000	578.5	5.134E+00	6.928E-03	8.428E-03	0.1921	0.2337
86	0.125	0.055	541.5	4.444E+00	5.711E-03	6.877E-03	0.1583	0.1907
11	0.150	0.091	532.3	4.170E+00	5.296E-03	6.363E-03	0.1468	0.1764
17	0.192	0.107	527.9	3.840E+00	4.851E-03	5.821E-03	0.1345	0.1614
87	0.300	-0.106	523.0	3.472E+00	4.358E-03	5.223E-03	0.1208	0.1448
88	0.300	0.061	522.1	3.049E+00	3.822E-03	4.580E-03	0.1060	0.1270
89	0.300	0.122	522.6	3.699E+00	4.641E-03	5.562E-03	0.1287	0.1542
24	0.300	0.160	520.7	3.804E+00	4.761E-03	5.703E-03	0.1320	0.1581
25	0.300	0.221	520.3	4.009E+00	5.015E-03	6.006E-03	0.1390	0.1665
90	0.400	-0.107	524.8	2.711E+00	3.410E-03	4.089E-03	0.0946	0.1134
32	0.400	0.107	523.0	2.579E+00	3.238E-03	3.881E-03	0.0898	0.1076
52	0.400	0.250	523.9	3.420E+00	4.298E-03	5.152E-03	0.1192	0.1429
91	0.425	0.061	525.4	2.445E+00	3.078E-03	3.691E-03	0.0853	0.1023
92	0.425	0.178	525.1	3.105E+00	3.908E-03	4.686E-03	0.1083	0.1299
93	0.500	-0.107	530.0	2.341E+00	2.965E-03	3.559E-03	0.0822	0.0987
35	0.500	0.107	528.2	2.213E+00	2.797E-03	3.356E-03	0.0775	0.0931
94	0.500	0.178	530.9	2.935E+00	3.721E-03	4.468E-03	0.1032	0.1239
53	0.500	0.250	531.7	3.194E+00	4.053E-03	4.868E-03	0.1124	0.1350
95	0.600	-0.250	543.8	2.422E+00	3.122E-03	3.762E-03	0.0866	0.1043
39	0.600	0.107	543.2	2.302E+00	2.964E-03	3.571E-03	0.0822	0.0990

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL 95
TIME COMPUTED: 13:11:10
DATE RECORDED: 9-JUN-95
TIME RECORDED: 0:07:05
00001112?

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
95	S10R 7	J-2&K-3	29-0	7.98	458.1	1319.67	30.00	4.92	34.92	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.048	2.121	3874	4.070E-05	7.900E-08	1.9961E+06	3.756E+06	3.607E-02	0.385

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	544.1	2.434E+00	3.138E-03	3.782E-03	0.0870	0.1049
98	0.660	-0.107	554.7	2.270E+00	2.968E-03	3.586E-03	0.0823	0.0994
96	0.660	0.107	558.0	2.658E+00	3.490E-03	4.221E-03	0.0968	0.1170
97	0.660	0.250	557.0	2.023E+00	2.653E-03	3.208E-03	0.0736	0.0890
60	0.660	0.400	584.4	8.998E+00	1.224E-02	1.491E-02	0.3393	0.4135
65	0.700	0.500	587.2	3.956E+00	5.400E-03	6.587E-03	0.1497	0.1826
99	0.750	0.178	569.2	2.109E+00	2.810E-03	3.410E-03	0.0779	0.0945
100	0.755	0.400	584.1	2.872E+00	3.905E-03	4.759E-03	0.1083	0.1319
101	0.800	-0.250	568.8	2.448E+00	3.261E-03	3.956E-03	0.0904	0.1097
45	0.800	0.107	569.9	2.326E+00	3.103E-03	3.766E-03	0.0860	0.1044
56	0.800	0.250	571.4	2.399E+00	3.206E-03	3.892E-03	0.0889	0.1079
66	0.800	0.500	606.9	8.902E+00	1.249E-02	1.533E-02	0.3463	0.4250
70	0.800	0.600	603.9	3.379E+00	4.721E-03	5.788E-03	0.1309	0.1605
75	0.800	0.750	604.7	3.101E+00	4.337E-03	5.319E-03	0.1203	0.1475
102	0.886	0.732	598.7	3.296E+00	4.572E-03	5.596E-03	0.1268	0.1552
103	0.900	-0.107	567.2	2.891E+00	3.843E-03	4.660E-03	0.1065	0.1292
57	0.900	0.250	575.1	3.061E+00	4.111E-03	4.997E-03	0.1140	0.1385

RUN 95

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11:14
DATE RECORDED: 9-JUN-95
TIME RECORDED: 0:19:19
000011128

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
96	S10R 9	J-2&K-3	29-O	7.96	331.4	1291.67	30.00	9.96	39.96	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.3	0.035	1.546	3829.	3.038E-05	7.750E-08	1.5009E+06	2.824E+06	3.068E-02	0.394

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	557.2	7.263E+00	9.890E-03	1.200E-02	0.3223	0.3911
6	0.060	0.000	546.8	5.394E+00	7.241E-03	8.760E-03	0.2360	0.2855
7	0.080	0.000	540.5	4.468E+00	5.948E-03	7.183E-03	0.1938	0.2341
8	0.100	0.000	538.0	4.164E+00	5.526E-03	6.669E-03	0.1801	0.2173
10	0.150	0.000	530.4	3.347E+00	4.397E-03	5.295E-03	0.1433	0.1726
16	0.192	0.000	524.5	2.927E+00	3.816E-03	4.588E-03	0.1244	0.1495
20	0.250	0.000	522.9	2.838E+00	3.692E-03	4.437E-03	0.1203	0.1446
23	0.300	0.000	520.9	2.714E+00	3.521E-03	4.230E-03	0.1148	0.1379
30	0.350	0.000	522.0	2.469E+00	3.208E-03	3.855E-03	0.1046	0.1257
31	0.400	0.000	520.8	2.262E+00	2.934E-03	3.525E-03	0.0956	0.1149
33	0.450	0.000	525.2	2.272E+00	2.965E-03	3.565E-03	0.0966	0.1162
34	0.500	0.000	528.4	2.238E+00	2.932E-03	3.529E-03	0.0956	0.1150
37	0.550	0.000	531.8	2.108E+00	2.774E-03	3.343E-03	0.0904	0.1089
38	0.600	0.000	548.6	4.682E+00	6.301E-03	7.627E-03	0.2054	0.2486
40	0.650	0.000	562.8	6.466E+00	8.872E-03	1.078E-02	0.2891	0.3514
41	0.700	0.000	565.4	6.225E+00	8.571E-03	1.042E-02	0.2793	0.3398
43	0.750	0.000	562.6	5.842E+00	8.013E-03	9.738E-03	0.2611	0.3174
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	537.6	4.167E+00	5.527E-03	6.669E-03	0.1801	0.2174
11	0.150	0.091	530.8	3.857E+00	5.069E-03	6.106E-03	0.1652	0.1990
17	0.192	0.107	528.9	3.505E+00	4.595E-03	5.532E-03	0.1498	0.1803
87	0.300	-0.106	522.3	3.110E+00	4.042E-03	4.858E-03	0.1317	0.1583
88	0.300	0.061	523.7	2.884E+00	3.755E-03	4.514E-03	0.1224	0.1471
89	0.300	0.122	524.6	3.382E+00	4.409E-03	5.301E-03	0.1437	0.1728
24	0.300	0.160	523.6	3.463E+00	4.509E-03	5.421E-03	0.1470	0.1767
25	0.300	0.221	523.7	3.469E+00	4.517E-03	5.430E-03	0.1472	0.1770
90	0.400	-0.107	522.9	2.563E+00	3.333E-03	4.006E-03	0.1086	0.1306
32	0.400	0.107	522.3	2.507E+00	3.258E-03	3.916E-03	0.1062	0.1276
52	0.400	0.250	525.4	3.059E+00	3.992E-03	4.802E-03	0.1301	0.1565
91	0.425	0.061	523.5	2.416E+00	3.146E-03	3.782E-03	0.1025	0.1233
92	0.425	0.178	525.0	2.914E+00	3.801E-03	4.571E-03	0.1239	0.1490
93	0.500	-0.107	529.1	2.151E+00	2.820E-03	3.395E-03	0.0919	0.1107
35	0.500	0.107	526.9	2.039E+00	2.666E-03	3.208E-03	0.0869	0.1046
94	0.500	0.178	530.0	2.692E+00	3.534E-03	4.256E-03	0.1152	0.1387
53	0.500	0.250	531.4	2.845E+00	3.742E-03	4.508E-03	0.1220	0.1469
95	0.600	-0.250	542.8	2.223E+00	2.968E-03	3.587E-03	0.0967	0.1169
39	0.600	0.107	540.1	2.093E+00	2.784E-03	3.362E-03	0.0907	0.1096

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11:14
DATE RECORDED: 9-JUN-95
TIME RECORDED: 0:19:19
000011129

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
96	S10R 9	J-2&K-3	29-0	7.96	331.4	1291.67	30.00	9.96	39.96	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.3	0.035	1.546	3829.	3.038E-05	7.750E-08	1.5009E+06	2.824E+06	3.068E-02	0.394

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	542.6	2.286E+00	3.052E-03	3.687E-03	0.0995	0.1202
98	0.660	-0.107	550.7	1.999E+00	2.698E-03	3.268E-03	0.0879	0.1065
96	0.660	0.107	553.1	2.297E+00	3.110E-03	3.769E-03	0.1014	0.1229
97	0.660	0.250	553.3	1.920E+00	2.600E-03	3.151E-03	0.0847	0.1027
60	0.660	0.400	569.9	7.072E+00	9.799E-03	1.193E-02	0.3194	0.3890
65	0.700	0.500	566.7	3.316E+00	4.574E-03	5.566E-03	0.1491	0.1814
99	0.750	0.178	557.2	1.389E+00	1.891E-03	2.294E-03	0.0616	0.0748
100	0.755	0.400	564.3	1.883E+00	2.589E-03	3.148E-03	0.0844	0.1026
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11:17
DATE RECORDED: 9-JUN-95
TIME RECORDED: 0:21.52
000011130

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
97	S10R11	J-2&K-3	29-O	7.96	323.6	1288.67	30.00	4.94	34.94	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.1	0.034	1.511	3824.	2.976E-05	7.733E-08	1.4716E+06	2.769E+06	3.032E-02	0.397

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	566.5	6.475E+00	8.966E-03	1.091E-02	0.2957	0.3600
6	0.060	0.000	555.3	4.723E+00	6.441E-03	7.814E-03	0.2124	0.2577
7	0.080	0.000	546.9	3.825E+00	5.156E-03	6.241E-03	0.1701	0.2058
8	0.100	0.000	541.8	3.537E+00	4.736E-03	5.723E-03	0.1562	0.1888
10	0.150	0.000	531.2	2.849E+00	3.761E-03	4.532E-03	0.1240	0.1495
16	0.192	0.000	524.3	2.398E+00	3.137E-03	3.774E-03	0.1035	0.1245
20	0.250	0.000	522.8	2.342E+00	3.058E-03	3.676E-03	0.1009	0.1213
23	0.300	0.000	521.1	2.221E+00	2.894E-03	3.478E-03	0.0955	0.1147
30	0.350	0.000	522.9	2.088E+00	2.726E-03	3.278E-03	0.0899	0.1081
31	0.400	0.000	522.9	1.868E+00	2.439E-03	2.933E-03	0.0805	0.0967
33	0.450	0.000	527.3	1.876E+00	2.465E-03	2.967E-03	0.0813	0.0979
34	0.500	0.000	530.3	1.919E+00	2.530E-03	3.048E-03	0.0835	0.1005
37	0.550	0.000	534.9	1.808E+00	2.398E-03	2.893E-03	0.0791	0.0954
38	0.600	0.000	546.5	2.690E+00	3.624E-03	4.385E-03	0.1195	0.1447
40	0.650	0.000	557.7	4.182E+00	5.720E-03	6.945E-03	0.1887	0.2291
41	0.700	0.000	568.5	5.263E+00	7.309E-03	8.902E-03	0.2411	0.2936
43	0.750	0.000	568.4	5.161E+00	7.165E-03	8.726E-03	0.2363	0.2878
46	0.850	0.000	576.1	5.150E+00	7.227E-03	8.823E-03	0.2384	0.2910
49	0.950	0.000	572.7	3.750E+00	5.237E-03	6.386E-03	0.1727	0.2107
86	0.125	0.055	538.9	3.521E+00	4.697E-03	5.671E-03	0.1549	0.1871
11	0.150	0.091	530.8	3.407E+00	4.495E-03	5.416E-03	0.1483	0.1786
17	0.192	0.107	526.9	3.070E+00	4.030E-03	4.850E-03	0.1329	0.1600
87	0.300	-0.106	523.3	2.653E+00	3.466E-03	4.168E-03	0.1143	0.1375
88	0.300	0.061	522.8	2.425E+00	3.167E-03	3.807E-03	0.1045	0.1256
89	0.300	0.122	522.3	2.920E+00	3.810E-03	4.580E-03	0.1257	0.1511
24	0.300	0.160	520.6	3.054E+00	3.976E-03	4.777E-03	0.1311	0.1576
25	0.300	0.221	520.5	3.150E+00	4.100E-03	4.927E-03	0.1353	0.1625
90	0.400	-0.107	524.8	2.200E+00	2.880E-03	3.464E-03	0.0950	0.1143
32	0.400	0.107	523.4	2.094E+00	2.736E-03	3.290E-03	0.0903	0.1085
52	0.400	0.250	525.5	2.741E+00	3.592E-03	4.321E-03	0.1185	0.1425
91	0.425	0.061	525.4	2.002E+00	2.623E-03	3.156E-03	0.0865	0.1041
92	0.425	0.178	525.6	2.488E+00	3.260E-03	3.923E-03	0.1075	0.1294
93	0.500	-0.107	530.6	1.831E+00	2.416E-03	2.910E-03	0.0797	0.0960
35	0.500	0.107	528.9	1.731E+00	2.279E-03	2.744E-03	0.0752	0.0905
94	0.500	0.178	531.2	2.298E+00	3.034E-03	3.656E-03	0.1001	0.1206
53	0.500	0.250	532.3	2.516E+00	3.326E-03	4.009E-03	0.1097	0.1323
95	0.600	-0.250	543.5	1.907E+00	2.559E-03	3.094E-03	0.0844	0.1021
39	0.600	0.107	542.2	1.731E+00	2.319E-03	2.803E-03	0.0765	0.0925

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11:18
DATE RECORDED: 9-JUN-95
TIME RECORDED: 0:21:52
000011131

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
97	S10R11	J-2&K-3	29-O	7.96	323.6	1288.67	30.00	4.94	34.94	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.1	0.034	1.511	3824.	2.976E-05	7.733E-08	1.4716E+06	2.769E+06	3.032E-02	0.397

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	543.5	1.929E+00	2.588E-03	3.130E-03	0.0854	0.1032
98	0.660	-0.107	550.9	1.669E+00	2.263E-03	2.741E-03	0.0746	0.0904
96	0.660	0.107	553.2	1.907E+00	2.593E-03	3.143E-03	0.0855	0.1037
97	0.660	0.250	552.9	1.556E+00	2.115E-03	2.564E-03	0.0698	0.0846
60	0.660	0.400	571.1	6.071E+00	8.460E-03	1.031E-02	0.2791	0.3401
65	0.700	0.500	576.2	3.176E+00	4.458E-03	5.442E-03	0.1470	0.1795
99	0.750	0.178	562.9	1.440E+00	1.985E-03	2.413E-03	0.0655	0.0796
100	0.755	0.400	574.4	2.164E+00	3.029E-03	3.696E-03	0.0999	0.1219
101	0.800	-0.250	563.7	1.538E+00	2.122E-03	2.581E-03	0.0700	0.0851
45	0.800	0.107	564.0	1.265E+00	1.745E-03	2.122E-03	0.0576	0.0700
56	0.800	0.250	564.9	1.453E+00	2.007E-03	2.442E-03	0.0662	0.0806
66	0.800	0.500	591.3	6.466E+00	9.273E-03	1.137E-02	0.3059	0.3752
70	0.800	0.600	590.7	2.758E+00	3.951E-03	4.846E-03	0.1303	0.1598
75	0.800	0.750	591.0	2.551E+00	3.656E-03	4.485E-03	0.1206	0.1479
102	0.886	0.732	585.5	2.552E+00	3.629E-03	4.443E-03	0.1197	0.1466
103	0.900	-0.107	561.5	1.213E+00	1.668E-03	2.027E-03	0.0550	0.0669
57	0.900	0.250	568.1	1.642E+00	2.279E-03	2.776E-03	0.0752	0.0916

RUN 97

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11:22
DATE RECORDED: 9-JUN-95
TIME RECORDED: 0:33:03
000011132

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
98	S10R13	J-2&K-3	29-O	7.93	206.7	1247.67	30.00	9.95	39.95	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.4	0.022	0.977	3757.	1.993E-05	7.512E-08	9.9706E+05	1.876E+06	2.425E-02	0.415

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	556.9	5.395E+00	7.810E-03	9.532E-03	0.3221	0.3931
6	0.060	0.000	548.8	3.957E+00	5.662E-03	6.892E-03	0.2335	0.2843
7	0.080	0.000	543.4	3.285E+00	4.665E-03	5.669E-03	0.1924	0.2338
8	0.100	0.000	541.3	3.087E+00	4.370E-03	5.308E-03	0.1802	0.2189
10	0.150	0.000	535.4	2.463E+00	3.458E-03	4.192E-03	0.1426	0.1729
16	0.192	0.000	530.2	2.137E+00	2.978E-03	3.605E-03	0.1228	0.1487
20	0.250	0.000	529.2	1.998E+00	2.781E-03	3.365E-03	0.1147	0.1388
23	0.300	0.000	527.1	1.949E+00	2.705E-03	3.271E-03	0.1116	0.1349
30	0.350	0.000	528.1	1.865E+00	2.592E-03	3.136E-03	0.1069	0.1293
31	0.400	0.000	526.6	1.698E+00	2.355E-03	2.847E-03	0.0971	0.1174
33	0.450	0.000	530.0	1.682E+00	2.343E-03	2.836E-03	0.0966.	0.1170
34	0.500	0.000	532.9	1.681E+00	2.351E-03	2.849E-03	0.0970	0.1175
37	0.550	0.000	536.7	1.561E+00	2.195E-03	2.662E-03	0.0905	0.1098
38	0.600	0.000	545.3	1.731E+00	2.465E-03	2.998E-03	0.1017	0.1236
40	0.650	0.000	552.1	1.374E+00	1.976E-03	2.408E-03	0.0815	0.0993
41	0.700	0.000	552.8	6.862E-01	9.876E-04	1.204E-03	0.0407	0.0496
43	0.750	0.000	554.5	1.752E+00	2.527E-03	3.082E-03	0.1042	0.1271
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	541.0	3.018E+00	4.271E-03	5.187E-03	0.1762	0.2139
11	0.150	0.091	535.1	2.802E+00	3.932E-03	4.766E-03	0.1622	0.1966
17	0.192	0.107	533.9	2.584E+00	3.620E-03	4.387E-03	0.1493	0.1809
87	0.300	-0.106	527.5	2.221E+00	3.084E-03	3.730E-03	0.1272	0.1538
88	0.300	0.061	529.8	2.100E+00	2.925E-03	3.541E-03	0.1207	0.1460
89	0.300	0.122	530.1	2.414E+00	3.365E-03	4.073E-03	0.1388	0.1680
24	0.300	0.160	528.8	2.514E+00	3.497E-03	4.232E-03	0.1442	0.1745
25	0.300	0.221	529.0	2.547E+00	3.544E-03	4.288E-03	0.1462	0.1769
90	0.400	-0.107	528.3	1.902E+00	2.644E-03	3.198E-03	0.1090	0.1319
32	0.400	0.107	527.9	1.885E+00	2.619E-03	3.168E-03	0.1080	0.1307
52	0.400	0.250	530.6	2.263E+00	3.156E-03	3.820E-03	0.1301	0.1576
91	0.425	0.061	529.2	1.758E+00	2.447E-03	2.962E-03	0.1009	0.1221
92	0.425	0.178	529.5	2.097E+00	2.919E-03	3.533E-03	0.1204	0.1457
93	0.500	-0.107	533.2	1.583E+00	2.216E-03	2.684E-03	0.0914	0.1107
35	0.500	0.107	531.6	1.533E+00	2.140E-03	2.592E-03	0.0883	0.1069
94	0.500	0.178	533.9	1.979E+00	2.772E-03	3.360E-03	0.1143	0.1386
53	0.500	0.250	535.4	2.091E+00	2.935E-03	3.559E-03	0.1211	0.1468
95	0.600	-0.250	545.0	1.649E+00	2.347E-03	2.854E-03	0.0968	0.1177
39	0.600	0.107	544.0	1.511E+00	2.148E-03	2.610E-03	0.0886	0.1077

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11.22
DATE RECORDED: 9-JUN-95
TIME RECORDED: 0:33.03
000011133

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
98	S10R13	J-2&K-3	29-O	7.93	206.7	1247.67	30.00	9.95	39.95	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.4	0.022	0.977	3757.	1.993E-05	7.512E-08	9.9706E+05	1.876E+06	2.425E-02	0.415

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	545.5	1.652E+00	2.353E-03	2.861E-03	0.0970	0.1180
98	0.660	-0.107	551.4	1.326E+00	1.904E-03	2.320E-03	0.0785	0.0957
96	0.660	0.107	552.9	1.437E+00	2.068E-03	2.521E-03	0.0853	0.1040
97	0.660	0.250	554.3	1.264E+00	1.823E-03	2.223E-03	0.0752	0.0917
60	0.660	0.400	561.0	2.772E+00	4.037E-03	4.934E-03	0.1665	0.2035
65	0.700	0.500	566.1	2.426E+00	3.560E-03	4.357E-03	0.1468	0.1797
99	0.750	0.178	557.5	1.419E+00	2.056E-03	2.510E-03	0.0848	0.1035
100	0.755	0.400	563.4	1.190E+00	1.738E-03	2.126E-03	0.0717	0.0877
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

RUN 98

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11:25
DATE RECORDED: 9-JUN-95
TIME RECORDED: 0:35:53
000011134

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
99	S10R15	J-2&K-3	29-0	7.93	208.7	1241.67	30.00	4.92	34.92	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.9	0.022	0.986	3748.	2.022E-05	7.473E-08	1.0143E+06	1.909E+06	2.434E-02	0.417

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	562.2	4.826E+00	7.103E-03	8.692E-03	0.2919	0.3571
6	0.060	0.000	553.2	3.497E+00	5.080E-03	6.197E-03	0.2087	0.2546
7	0.080	0.000	545.4	2.840E+00	4.078E-03	4.963E-03	0.1676	0.2039
8	0.100	0.000	540.8	2.639E+00	3.766E-03	4.577E-03	0.1547	0.1880
10	0.150	0.000	532.2	2.041E+00	2.876E-03	3.486E-03	0.1182	0.1432
16	0.192	0.000	526.4	1.776E+00	2.483E-03	3.005E-03	0.1020	0.1235
20	0.250	0.000	525.8	1.738E+00	2.428E-03	2.937E-03	0.0998	0.1207
23	0.300	0.000	524.1	1.619E+00	2.256E-03	2.729E-03	0.0927	0.1121
30	0.350	0.000	526.5	1.554E+00	2.173E-03	2.630E-03	0.0893	0.1080
31	0.400	0.000	526.5	1.401E+00	1.959E-03	2.371E-03	0.0805	0.0974
33	0.450	0.000	530.2	1.407E+00	1.977E-03	2.395E-03	0.0812	0.0984
34	0.500	0.000	533.5	1.442E+00	2.037E-03	2.470E-03	0.0837	0.1015
37	0.550	0.000	538.3	1.327E+00	1.887E-03	2.292E-03	0.0775	0.0942
38	0.600	0.000	545.1	1.341E+00	1.926E-03	2.343E-03	0.0791	0.0963
40	0.650	0.000	550.3	1.230E+00	1.780E-03	2.169E-03	0.0731	0.0891
41	0.700	0.000	556.8	1.153E+00	1.683E-03	2.056E-03	0.0692	0.0845
43	0.750	0.000	557.8	1.070E+00	1.564E-03	1.911E-03	0.0643	0.0785
46	0.850	0.000	564.3	8.653E-01	1.278E-03	1.564E-03	0.0525	0.0643
49	0.950	0.000	563.9	5.351E-01	7.894E-04	9.665E-04	0.0324	0.0397
86	0.125	0.055	538.4	2.676E+00	3.805E-03	4.621E-03	0.1563	0.1898
11	0.150	0.091	531.1	2.545E+00	3.582E-03	4.341E-03	0.1472	0.1783
17	0.192	0.107	528.6	2.241E+00	3.142E-03	3.805E-03	0.1291	0.1563
87	0.300	-0.106	526.3	1.957E+00	2.735E-03	3.309E-03	0.1124	0.1360
88	0.300	0.061	525.3	1.795E+00	2.506E-03	3.031E-03	0.1030	0.1245
89	0.300	0.122	524.1	2.119E+00	2.953E-03	3.571E-03	0.1213	0.1467
24	0.300	0.160	521.9	2.264E+00	3.145E-03	3.801E-03	0.1292	0.1562
25	0.300	0.221	522.2	2.396E+00	3.330E-03	4.024E-03	0.1368	0.1653
90	0.400	-0.107	528.8	1.630E+00	2.286E-03	2.768E-03	0.0939	0.1137
32	0.400	0.107	526.9	1.530E+00	2.141E-03	2.591E-03	0.0880	0.1064
52	0.400	0.250	528.9	2.016E+00	2.828E-03	3.425E-03	0.1162	0.1407
91	0.425	0.061	529.0	1.428E+00	2.003E-03	2.426E-03	0.0823	0.0997
92	0.425	0.178	528.5	1.826E+00	2.561E-03	3.100E-03	0.1052	0.1274
93	0.500	-0.107	533.7	1.371E+00	1.937E-03	2.349E-03	0.0796	0.0965
35	0.500	0.107	532.4	1.352E+00	1.906E-03	2.310E-03	0.0783	0.0949
94	0.500	0.178	534.2	1.670E+00	2.360E-03	2.862E-03	0.0970	0.1176
53	0.500	0.250	535.3	1.865E+00	2.640E-03	3.204E-03	0.1085	0.1316
95	0.600	-0.250	544.1	1.368E+00	1.961E-03	2.385E-03	0.0806	0.0980
39	0.600	0.107	544.2	1.263E+00	1.811E-03	2.204E-03	0.0744	0.0905

RUN 99

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11:26
DATE RECORDED: 9-JUN-95
TIME RECORDED: 0:35:53
00001113

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
99	S10R15	J-2&K-3	29-0	7.93	208.7	1241.67	30.00	4.92	34.92	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.9	0.022	0.986	3748.	2.022E-05	7.473E-08	1.0143E+06	1.909E+06	2.434E-02	0.417

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	544.6	1.387E+00	1.989E-03	2.421E-03	0.0817	0.0995
98	0.660	-0.107	550.7	1.254E+00	1.815E-03	2.213E-03	0.0746	0.0909
96	0.660	0.107	552.1	1.332E+00	1.932E-03	2.356E-03	0.0794	0.0968
97	0.660	0.250	552.9	1.124E+00	1.633E-03	1.992E-03	0.0671	0.0818
60	0.660	0.400	559.7	1.917E+00	2.811E-03	3.437E-03	0.1155	0.1412
65	0.700	0.500	571.7	2.399E+00	3.581E-03	4.395E-03	0.1471	0.1806
99	0.750	0.178	561.2	9.775E-01	1.437E-03	1.757E-03	0.0590	0.0722
100	0.755	0.400	570.8	1.503E+00	2.240E-03	2.749E-03	0.0920	0.1130
101	0.800	-0.250	561.9	1.036E+00	1.524E-03	1.864E-03	0.0626	0.0766
45	0.800	0.107	562.0	8.860E-01	1.303E-03	1.595E-03	0.0536	0.0655
56	0.800	0.250	562.9	9.995E-01	1.472E-03	1.802E-03	0.0605	0.0740
66	0.800	0.500	577.3	1.778E+00	2.675E-03	3.290E-03	0.1099	0.1352
70	0.800	0.600	582.7	2.086E+00	3.165E-03	3.900E-03	0.1300	0.1602
75	0.800	0.750	582.8	1.918E+00	2.910E-03	3.586E-03	0.1196	0.1473
102	0.886	0.732	578.7	1.886E+00	2.846E-03	3.501E-03	0.1169	0.1439
103	0.900	-0.107	559.9	7.378E-01	1.082E-03	1.323E-03	0.0445	0.0544
57	0.900	0.250	566.0	1.085E+00	1.605E-03	1.967E-03	0.0660	0.0808

RUN 99

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11:29
DATE RECORDED: 9-JUN-95
TIME RECORDED: 0:43:29
000011136

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
100	S10R19	J-2&K-3	29-O	7.95	281.5	1262.67	30.00	4.92	34.92	0.01

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
94.2	0.030	1.320	3782.	2.657E-05	7.579E-08	1.3259E+06	2.495E+06	2.823E-02	0.414

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	563.8	5.865E+00	8.393E-03	1.024E-02	0.2973	0.3628
6	0.060	0.000	555.0	4.263E+00	6.024E-03	7.332E-03	0.2133	0.2597
7	0.080	0.000	548.5	3.433E+00	4.806E-03	5.838E-03	0.1702	0.2068
8	0.100	0.000	546.2	3.163E+00	4.415E-03	5.359E-03	0.1564	0.1898
10	0.150	0.000	539.8	2.464E+00	3.409E-03	4.130E-03	0.1207	0.1463
16	0.192	0.000	534.0	2.159E+00	2.963E-03	3.585E-03	0.1050	0.1270
20	0.250	0.000	533.1	2.020E+00	2.768E-03	3.348E-03	0.0981	0.1186
23	0.300	0.000	531.1	1.962E+00	2.682E-03	3.241E-03	0.0950	0.1148
30	0.350	0.000	532.4	1.818E+00	2.489E-03	3.010E-03	0.0882	0.1066
31	0.400	0.000	530.9	1.693E+00	2.313E-03	2.796E-03	0.0819	0.0990
33	0.450	0.000	534.8	1.637E+00	2.249E-03	2.721E-03	0.0797	0.0964
34	0.500	0.000	538.0	1.682E+00	2.321E-03	2.810E-03	0.0822	0.0995
37	0.550	0.000	542.0	1.508E+00	2.092E-03	2.536E-03	0.0741	0.0898
38	0.600	0.000	549.6	1.847E+00	2.591E-03	3.148E-03	0.0918	0.1115
40	0.650	0.000	554.0	1.674E+00	2.362E-03	2.874E-03	0.0836	0.1018
41	0.700	0.000	560.2	1.579E+00	2.248E-03	2.741E-03	0.0796	0.0971
43	0.750	0.000	561.7	1.620E+00	2.311E-03	2.818E-03	0.0818	0.0998
46	0.850	0.000	566.4	1.700E+00	2.441E-03	2.982E-03	0.0865	0.1056
49	0.950	0.000	562.7	1.445E+00	2.064E-03	2.519E-03	0.0731	0.0892
86	0.125	0.055	545.9	3.127E+00	4.363E-03	5.296E-03	0.1545	0.1876
11	0.150	0.091	539.6	2.914E+00	4.029E-03	4.882E-03	0.1427	0.1729
17	0.192	0.107	538.1	2.606E+00	3.597E-03	4.356E-03	0.1274	0.1543
87	0.300	-0.106	531.9	2.356E+00	3.224E-03	3.897E-03	0.1142	0.1380
88	0.300	0.061	533.8	2.114E+00	2.900E-03	3.508E-03	0.1027	0.1242
89	0.300	0.122	534.5	2.512E+00	3.450E-03	4.174E-03	0.1222	0.1478
24	0.300	0.160	532.9	2.634E+00	3.610E-03	4.365E-03	0.1279	0.1546
25	0.300	0.221	533.8	2.773E+00	3.804E-03	4.601E-03	0.1347	0.1630
90	0.400	-0.107	533.2	1.924E+00	2.637E-03	3.189E-03	0.0934	0.1129
32	0.400	0.107	532.6	1.836E+00	2.515E-03	3.041E-03	0.0891	0.1077
52	0.400	0.250	535.8	2.393E+00	3.292E-03	3.984E-03	0.1166	0.1411
91	0.425	0.061	534.0	1.757E+00	2.411E-03	2.917E-03	0.0854	0.1033
92	0.425	0.178	534.3	2.186E+00	3.001E-03	3.631E-03	0.1063	0.1286
93	0.500	-0.107	538.2	1.598E+00	2.205E-03	2.670E-03	0.0781	0.0946
35	0.500	0.107	536.2	1.555E+00	2.141E-03	2.591E-03	0.0758	0.0918
94	0.500	0.178	539.1	2.017E+00	2.788E-03	3.377E-03	0.0987	0.1196
53	0.500	0.250	540.8	2.228E+00	3.086E-03	3.741E-03	0.1093	0.1325
95	0.600	-0.250	547.9	1.677E+00	2.346E-03	2.849E-03	0.0831	0.1009
39	0.600	0.107	548.0	1.536E+00	2.149E-03	2.610E-03	0.0761	0.0924

RUN 100

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11:29
DATE RECORDED: 9-JUN-95
TIME RECORDED: 0:43:29
000011137

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
100	S10R19	J-2&K-3	29-O	7.95	281.5	1262.67	30.00	4.92	34.92	0.01

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
94.2	0.030	1.320	3782.	2.657E-05	7.579E-08	1.3259E+06	2.495E+06	2.823E-02	0.414

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	548.6	1.690E+00	2.367E-03	2.876E-03	0.0838	0.1019
98	0.660	-0.107	554.0	1.511E+00	2.133E-03	2.595E-03	0.0755	0.0919
96	0.660	0.107	554.8	1.674E+00	2.365E-03	2.878E-03	0.0838	0.1019
97	0.660	0.250	556.2	1.395E+00	1.975E-03	2.405E-03	0.0700	0.0852
60	0.660	0.400	570.5	4.633E+00	6.693E-03	8.186E-03	0.2371	0.2899
65	0.700	0.500	575.0	2.916E+00	4.241E-03	5.195E-03	0.1502	0.1840
99	0.750	0.178	563.4	1.207E+00	1.726E-03	2.106E-03	0.0611	0.0746
100	0.755	0.400	571.6	1.847E+00	2.673E-03	3.270E-03	0.0947	0.1158
101	0.800	-0.250	564.3	1.184E+00	1.695E-03	2.069E-03	0.0600	0.0733
45	0.800	0.107	562.7	1.080E+00	1.544E-03	1.883E-03	0.0547	0.0667
56	0.800	0.250	564.8	1.244E+00	1.782E-03	2.176E-03	0.0631	0.0771
66	0.800	0.500	584.1	5.432E+00	8.005E-03	9.835E-03	0.2835	0.3483
70	0.800	0.600	580.0	2.589E+00	3.792E-03	4.652E-03	0.1343	0.1648
75	0.800	0.750	582.3	2.362E+00	3.472E-03	4.263E-03	0.1230	0.1510
102	0.886	0.732	576.5	2.377E+00	3.464E-03	4.246E-03	0.1227	0.1504
103	0.900	-0.107	560.1	9.573E-01	1.362E-03	1.661E-03	0.0483	0.0588
57	0.900	0.250	566.4	1.347E+00	1.935E-03	2.364E-03	0.0685	0.0837

RUN 100

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11:33
DATE RECORDED: 9-JUN-95
TIME RECORDED: 0:56:09
000011138

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
101	S10R 6	J-2&K-3	29-O	7.96	330.9	1289.67	30.00	9.96	39.96	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.2	0.035	1.544	3825.	3.039E-05	7.737E-08	1.5025E+06	2.827E+06	3.065E-02	0.133

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	241.2	8.097E+00	7.723E-03	8.806E-03	0.2519	0.2873
6	0.060	0.000	223.9	6.214E+00	5.831E-03	6.633E-03	0.1902	0.2164
7	0.080	0.000	222.6	6.279E+00	5.885E-03	6.694E-03	0.1920	0.2184
8	0.100	0.000	218.8	5.434E+00	5.074E-03	5.769E-03	0.1655	0.1882
10	0.150	0.000	222.5	4.590E+00	4.301E-03	4.893E-03	0.1403	0.1596
16	0.192	0.000	217.7	4.063E+00	3.790E-03	4.309E-03	0.1237	0.1406
20	0.250	0.000	205.0	4.199E+00	3.871E-03	4.394E-03	0.1263	0.1433
23	0.300	0.000	198.6	4.045E+00	3.707E-03	4.204E-03	0.1209	0.1371
30	0.350	0.000	211.5	3.879E+00	3.598E-03	4.087E-03	0.1174	0.1333
31	0.400	0.000	205.0	3.546E+00	3.270E-03	3.711E-03	0.1067	0.1211
33	0.450	0.000	215.3	4.198E+00	3.908E-03	4.441E-03	0.1275	0.1449
34	0.500	0.000	210.9	4.056E+00	3.760E-03	4.270E-03	0.1227	0.1393
37	0.550	0.000	212.0	4.569E+00	4.240E-03	4.816E-03	0.1383	0.1571
38	0.600	0.000	235.1	8.467E+00	8.028E-03	9.147E-03	0.2619	0.2984
40	0.650	0.000	250.9	8.637E+00	8.314E-03	9.493E-03	0.2713	0.3097
41	0.700	0.000	247.7	8.336E+00	8.000E-03	9.131E-03	0.2610	0.2979
43	0.750	0.000	245.8	7.757E+00	7.431E-03	8.479E-03	0.2424	0.2766
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	229.1	5.696E+00	5.371E-03	6.114E-03	0.1752	0.1995
11	0.150	0.091	234.8	4.766E+00	4.518E-03	5.147E-03	0.1474	0.1679
17	0.192	0.107	270.7	4.194E+00	4.116E-03	4.713E-03	0.1343	0.1537
87	0.300	-0.106	225.0	4.343E+00	4.079E-03	4.641E-03	0.1331	0.1514
88	0.300	0.061	205.4	3.958E+00	3.650E-03	4.143E-03	0.1191	0.1352
89	0.300	0.122	221.7	4.665E+00	4.368E-03	4.968E-03	0.1425	0.1621
24	0.300	0.160	229.8	4.736E+00	4.469E-03	5.088E-03	0.1458	0.1660
25	0.300	0.221	254.4	4.726E+00	4.566E-03	5.215E-03	0.1489	0.1701
90	0.400	-0.107	224.6	3.643E+00	3.420E-03	3.892E-03	0.1116	0.1270
32	0.400	0.107	226.9	3.669E+00	3.453E-03	3.930E-03	0.1126	0.1282
52	0.400	0.250	266.2	4.468E+00	4.366E-03	4.995E-03	0.1424	0.1630
91	0.425	0.061	223.5	3.440E+00	3.226E-03	3.670E-03	0.1052	0.1197
92	0.425	0.178	248.9	4.116E+00	3.955E-03	4.514E-03	0.1290	0.1473
93	0.500	-0.107	220.9	3.292E+00	3.080E-03	3.502E-03	0.1005	0.1143
35	0.500	0.107	223.7	3.103E+00	2.911E-03	3.312E-03	0.0950	0.1080
94	0.500	0.178	247.0	3.787E+00	3.632E-03	4.145E-03	0.1185	0.1352
53	0.500	0.250	275.0	3.913E+00	3.856E-03	4.418E-03	0.1258	0.1441
95	0.600	-0.250	285.3	3.341E+00	3.326E-03	3.816E-03	0.1085	0.1245
39	0.600	0.107	232.8	3.455E+00	3.270E-03	3.724E-03	0.1067	0.1215

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11:33
DATE RECORDED: 9-JUN-95
TIME RECORDED: 0:56.09
00001113

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
101	S10R 6	J-2&K-3	29-O	7.96	330.9	1289.67	30.00	9.96	39.96	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.2	0.035	1.544	3825.	3.039E-05	7.737E-08	1.5025E+06	2.827E+06	3.065E-02	0.133

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	262.9	3.588E+00	3.495E-03	3.997E-03	0.1140	0.1304
98	0.660	-0.107	273.7	7.479E+00	7.361E-03	8.431E-03	0.2401	0.2751
96	0.660	0.107	238.9	3.899E+00	3.710E-03	4.229E-03	0.1210	0.1380
97	0.660	0.250	253.9	3.399E+00	3.282E-03	3.748E-03	0.1071	0.1223
60	0.660	0.400	258.3	9.017E+00	8.743E-03	9.992E-03	0.2852	0.3260
65	0.700	0.500	228.0	5.580E+00	5.256E-03	5.983E-03	0.1715	0.1952
99	0.750	0.178	240.9	2.917E+00	2.781E-03	3.171E-03	0.0907	0.1035
100	0.755	0.400	211.1	3.875E+00	3.592E-03	4.080E-03	0.1172	0.1331
101	0.800	-0.250	*****	********	********	********	*****	*****
45	0.800	0.107	*****	********	********	********	*****	*****
56	0.800	0.250	*****	********	********	********	*****	*****
66	0.800	0.500	*****	********	********	********	*****	*****
70	0.800	0.600	*****	********	********	********	*****	*****
75	0.800	0.750	*****	********	********	********	*****	*****
102	0.886	0.732	*****	********	********	********	*****	*****
103	0.900	-0.107	*****	********	********	********	*****	*****
57	0.900	0.250	*****	********	********	********	*****	*****

RUN 101

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11:37
DATE RECORDED: 9-JUN-95
TIME RECORDED: 1:00:47
000011140

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
102	S10R 8	J-2&K-3	29-O	7.96	330.8	1290.67	30.00	4.94	34.94	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.2	0.035	1.544	3827.	3.036E-05	7.744E-08	1.5002E+06	2.823E+06	3.065E-02	0.124

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	234.2	8.227E+00	7.787E-03	8.870E-03	0.2540	0.2894
6	0.060	0.000	217.4	6.406E+00	5.968E-03	6.784E-03	0.1947	0.2213
7	0.080	0.000	204.9	5.423E+00	4.995E-03	5.669E-03	0.1630	0.1849
8	0.100	0.000	202.6	5.044E+00	4.636E-03	5.260E-03	0.1512	0.1716
10	0.150	0.000	204.0	4.041E+00	3.719E-03	4.220E-03	0.1213	0.1377
16	0.192	0.000	201.1	3.610E+00	3.313E-03	3.759E-03	0.1081	0.1226
20	0.250	0.000	190.9	3.731E+00	3.393E-03	3.844E-03	0.1107	0.1254
23	0.300	0.000	184.7	3.561E+00	3.220E-03	3.645E-03	0.1051	0.1189
30	0.350	0.000	198.0	3.540E+00	3.240E-03	3.673E-03	0.1057	0.1198
31	0.400	0.000	194.8	3.908E+00	3.566E-03	4.042E-03	0.1163	0.1319
33	0.450	0.000	206.6	4.990E+00	4.603E-03	5.225E-03	0.1502	0.1705
34	0.500	0.000	214.8	6.549E+00	6.087E-03	6.917E-03	0.1986	0.2257
37	0.550	0.000	215.9	6.944E+00	6.461E-03	7.343E-03	0.2108	0.2396
38	0.600	0.000	219.6	7.800E+00	7.282E-03	8.280E-03	0.2376	0.2701
40	0.650	0.000	221.1	7.406E+00	6.924E-03	7.874E-03	0.2259	0.2569
41	0.700	0.000	229.6	7.749E+00	7.303E-03	8.315E-03	0.2383	0.2713
43	0.750	0.000	232.7	7.409E+00	7.003E-03	7.976E-03	0.2285	0.2602
46	0.850	0.000	236.5	7.083E+00	6.719E-03	7.657E-03	0.2192	0.2498
49	0.950	0.000	263.5	5.436E+00	5.292E-03	6.053E-03	0.1727	0.1975
86	0.125	0.055	209.8	4.844E+00	4.482E-03	5.090E-03	0.1462	0.1660
11	0.150	0.091	218.7	4.468E+00	4.168E-03	4.739E-03	0.1360	0.1546
17	0.192	0.107	255.3	3.871E+00	3.739E-03	4.271E-03	0.1220	0.1394
87	0.300	-0.106	202.9	3.830E+00	3.521E-03	3.995E-03	0.1149	0.1303
88	0.300	0.061	204.6	4.722E+00	4.348E-03	4.934E-03	0.1419	0.1610
89	0.300	0.122	209.1	4.210E+00	3.892E-03	4.420E-03	0.1270	0.1442
24	0.300	0.160	216.7	4.305E+00	4.009E-03	4.556E-03	0.1308	0.1486
25	0.300	0.221	240.0	4.330E+00	4.122E-03	4.699E-03	0.1345	0.1533
90	0.400	-0.107	205.7	3.325E+00	3.064E-03	3.478E-03	0.1000	0.1135
32	0.400	0.107	224.1	5.464E+00	5.123E-03	5.828E-03	0.1671	0.1901
52	0.400	0.250	242.2	3.901E+00	3.720E-03	4.243E-03	0.1214	0.1384
91	0.425	0.061	223.5	5.765E+00	5.402E-03	6.145E-03	0.1762	0.2005
92	0.425	0.178	230.0	4.526E+00	4.267E-03	4.858E-03	0.1392	0.1585
93	0.500	-0.107	200.9	2.969E+00	2.725E-03	3.091E-03	0.0889	0.1008
35	0.500	0.107	226.5	6.545E+00	6.150E-03	6.999E-03	0.2007	0.2284
94	0.500	0.178	236.1	6.317E+00	5.990E-03	6.826E-03	0.1954	0.2227
53	0.500	0.250	238.0	4.882E+00	4.637E-03	5.285E-03	0.1513	0.1724
95	0.600	-0.250	232.2	2.948E+00	2.785E-03	3.172E-03	0.0909	0.1035
39	0.600	0.107	232.1	7.254E+00	6.853E-03	7.804E-03	0.2236	0.2546

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11:37
DATE RECORDED: 9-JUN-95
TIME RECORDED: 1:00:47
000011141

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
102	S10R 8	J-2&K-3	29-0	7.96	330.8	1290.67	30.00	4.94	34.94	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.2	0.035	1.544	3827.	3.036E-05	7.744E-08	1.5002E+06	2.823E+06	3.065E-02	0.124

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	246.7	6.934E+00	6.642E-03	7.579E-03	0.2167	0.2473
98	0.660	-0.107	233.5	6.567E+00	6.212E-03	7.076E-03	0.2027	0.2308
96	0.660	0.107	235.0	7.576E+00	7.176E-03	8.176E-03	0.2341	0.2667
97	0.660	0.250	250.5	7.367E+00	7.082E-03	8.086E-03	0.2311	0.2638
60	0.660	0.400	247.6	9.357E+00	8.971E-03	1.024E-02	0.2927	0.3340
65	0.700	0.500	239.4	7.456E+00	7.093E-03	8.086E-03	0.2314	0.2638
99	0.750	0.178	251.9	7.369E+00	7.094E-03	8.101E-03	0.2314	0.2643
100	0.755	0.400	230.8	8.395E+00	7.921E-03	9.019E-03	0.2584	0.2942
101	0.800	-0.250	272.5	2.442E+00	2.398E-03	2.746E-03	0.0782	0.0896
45	0.800	0.107	244.0	7.233E+00	6.911E-03	7.883E-03	0.2255	0.2572
56	0.800	0.250	255.7	7.697E+00	7.437E-03	8.497E-03	0.2426	0.2772
66	0.800	0.500	230.0	1.006E+01	9.484E-03	1.080E-02	0.3094	0.3523
70	0.800	0.600	220.1	7.444E+00	6.953E-03	7.906E-03	0.2268	0.2579
75	0.800	0.750	221.6	5.475E+00	5.121E-03	5.824E-03	0.1671	0.1900
102	0.886	0.732	223.2	6.651E+00	6.231E-03	7.088E-03	0.2033	0.2313
103	0.900	-0.107	247.9	6.041E+00	5.793E-03	6.611E-03	0.1890	0.2157
57	0.900	0.250	263.4	6.642E+00	6.466E-03	7.395E-03	0.2109	0.2413

RUN 102

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11:41
DATE RECORDED: 9-JUN-95
TIME RECORDED: 1:06:57
000011142

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
103	S10R18	J-2&K-3	29-0	7.96	331.2	1290.67	30.00	4.94	34.94	0.06

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.2	0.035	1.546	3827.	3.039E-05	7.744E-08	1.5019E+06	2.826E+06	3.067E-02	0.130

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	237.1	7.988E+00	7.582E-03	8.640E-03	0.2472	0.2817
6	0.060	0.000	218.7	5.977E+00	5.576E-03	6.339E-03	0.1818	0.2067
7	0.080	0.000	208.0	5.170E+00	4.776E-03	5.422E-03	0.1557	0.1768
8	0.100	0.000	208.0	4.751E+00	4.388E-03	4.982E-03	0.1431	0.1624
10	0.150	0.000	210.6	3.917E+00	3.627E-03	4.119E-03	0.1183	0.1343
16	0.192	0.000	207.7	3.556E+00	3.284E-03	3.728E-03	0.1071	0.1215
20	0.250	0.000	196.8	3.589E+00	3.281E-03	3.720E-03	0.1070	0.1213
23	0.300	0.000	193.5	3.751E+00	3.419E-03	3.874E-03	0.1115	0.1263
30	0.350	0.000	208.7	4.365E+00	4.034E-03	4.581E-03	0.1315	0.1494
31	0.400	0.000	207.9	5.111E+00	4.720E-03	5.359E-03	0.1539	0.1747
33	0.450	0.000	213.3	5.784E+00	5.369E-03	6.099E-03	0.1751	0.1989
34	0.500	0.000	215.8	6.612E+00	6.151E-03	6.990E-03	0.2006	0.2279
37	0.550	0.000	215.5	6.800E+00	6.325E-03	7.187E-03	0.2062	0.2343
38	0.600	0.000	218.2	7.361E+00	6.864E-03	7.803E-03	0.2238	0.2544
40	0.650	0.000	221.4	7.257E+00	6.787E-03	7.718E-03	0.2213	0.2517
41	0.700	0.000	231.8	7.696E+00	7.268E-03	8.277E-03	0.2370	0.2699
43	0.750	0.000	232.8	7.314E+00	6.914E-03	7.874E-03	0.2254	0.2567
46	0.850	0.000	235.6	7.039E+00	6.672E-03	7.602E-03	0.2175	0.2479
49	0.950	0.000	250.1	5.360E+00	5.150E-03	5.880E-03	0.1679	0.1917
86	0.125	0.055	219.9	4.937E+00	4.611E-03	5.243E-03	0.1503	0.1709
11	0.150	0.091	224.3	4.391E+00	4.117E-03	4.684E-03	0.1343	0.1527
17	0.192	0.107	253.2	3.856E+00	3.717E-03	4.245E-03	0.1212	0.1384
87	0.300	-0.106	206.2	3.728E+00	3.437E-03	3.902E-03	0.1121	0.1272
88	0.300	0.061	216.7	5.776E+00	5.378E-03	6.113E-03	0.1754	0.1993
89	0.300	0.122	214.2	4.187E+00	3.890E-03	4.420E-03	0.1268	0.1441
24	0.300	0.160	221.1	4.162E+00	3.891E-03	4.425E-03	0.1269	0.1443
25	0.300	0.221	242.4	4.186E+00	3.994E-03	4.554E-03	0.1302	0.1485
90	0.400	-0.107	205.8	3.136E+00	2.891E-03	3.281E-03	0.0942	0.1070
32	0.400	0.107	231.1	6.381E+00	6.022E-03	6.857E-03	0.1963	0.2236
52	0.400	0.250	243.8	3.761E+00	3.593E-03	4.098E-03	0.1171	0.1336
91	0.425	0.061	228.1	6.690E+00	6.296E-03	7.166E-03	0.2053	0.2337
92	0.425	0.178	234.1.	5.205E+00	4.926E-03	5.612E-03	0.1606	0.1830
93	0.500	-0.107	201.2	2.977E+00	2.732E-03	3.099E-03	0.0891	0.1010
35	0.500	0.107	227.4	7.058E+00	6.639E-03	7.556E-03	0.2165	0.2464
94	0.500	0.178	240.0	7.273E+00	6.922E-03	7.892E-03	0.2257	0.2573
53	0.500	0.250	241.1	5.653E+00	5.386E-03	6.141E-03	0.1756	0.2002
95	0.600	-0.250	227.9	3.022E+00	2.844E-03	3.237E-03	0.0927	0.1055
39	0.600	0.107	234.2	7.493E+00	7.093E-03	8.080E-03	0.2313	0.2635

RUN 103

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11:41
DATE RECORDED: 9-JUN-95
TIME RECORDED: 1:06:57
000011143

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
103	S10R18	J-2&K-3	29-O	7.96	331.2	1290.67	30.00	4.94	34.94	0.06

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.2	0.035	1.546	3827.	3.039E-05	7.744E-08	1.5019E+06	2.826E+06	3.067E-02	0.130

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	251.0	7.614E+00	7.323E-03	8.361E-03	0.2388	0.2726
98	0.660	-0.107	233.0	6.628E+00	6.267E-03	7.138E-03	0.2043	0.2327
96	0.660	0.107	237.0	7.578E+00	7.192E-03	8.196E-03	0.2345	0.2672
97	0.660	0.250	254.0	7.745E+00	7.471E-03	8.533E-03	0.2436	0.2782
60	0.660	0.400	256.4	9.673E+00	9.352E-03	1.069E-02	0.3049	0.3484
65	0.700	0.500	251.5	8.534E+00	8.213E-03	9.378E-03	0.2678	0.3058
99	0.750	0.178	253.3	7.196E+00	6.936E-03	7.922E-03	0.2262	0.2583
100	0.755	0.400	237.0	9.172E+00	8.705E-03	9.920E-03	0.2838	0.3235
101	0.800	-0.250	247.5	3.184E+00	3.052E-03	3.483E-03	0.0995	0.1136
45	0.800	0.107	245.2	7.034E+00	6.728E-03	7.676E-03	0.2194	0.2503
56	0.800	0.250	255.9	7.638E+00	7.382E-03	8.433E-03	0.2407	0.2750
66	0.800	0.500	231.1	9.935E+00	9.376E-03	1.068E-02	0.3057	0.3481
70	0.800	0.600	229.1	8.677E+00	8.174E-03	9.305E-03	0.2665	0.3034
75	0.800	0.750	232.8	5.346E+00	5.054E-03	5.756E-03	0.1648	0.1877
102	0.886	0.732	230.0	7.503E+00	7.074E-03	8.054E-03	0.2306	0.2626
103	0.900	-0.107	245.6	6.187E+00	5.920E-03	6.754E-03	0.1930	0.2202
57	0.900	0.250	260.5	6.520E+00	6.329E-03	7.236E-03	0.2064	0.2359

RUN 103

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11:45
DATE RECORDED: 9-JUN-95
TIME RECORDED: 1:22:16
000011144

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
104	S10R20	J-2&K-3	29-0	7.96	330.5	1290.67	30.00	9.94	39.94	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.2	0.035	1.542	3827.	3.033E-05	7.744E-08	1.4988E+06	2.820E+06	3.064E-02	0.129

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	251.1	8.275E+00	7.960E-03	9.088E-03	0.2598	0.2966
6	0.060	0.000	236.1	6.706E+00	6.359E-03	7.245E-03	0.2075	0.2365
7	0.080	0.000	229.1	6.465E+00	6.089E-03	6.932E-03	0.1988	0.2263
8	0.100	0.000	223.0	5.580E+00	5.226E-03	5.945E-03	0.1706	0.1940
10	0.150	0.000	220.3	4.688E+00	4.379E-03	4.980E-03	0.1429	0.1625
16	0.192	0.000	214.0	4.263E+00	3.959E-03	4.498E-03	0.1292	0.1468
20	0.250	0.000	208.0	5.132E+00	4.740E-03	5.382E-03	0.1547	0.1757
23	0.300	0.000	202.9	5.046E+00	4.639E-03	5.263E-03	0.1514	0.1718
30	0.350	0.000	217.3	5.619E+00	5.235E-03	5.951E-03	0.1709	0.1942
31	0.400	0.000	216.3	6.147E+00	5.722E-03	6.503E-03	0.1867	0.2122
33	0.450	0.000	223.8	6.456E+00	6.052E-03	6.885E-03	0.1975	0.2247
34	0.500	0.000	223.9	6.914E+00	6.481E-03	7.373E-03	0.2115	0.2407
37	0.550	0.000	220.8	6.820E+00	6.375E-03	7.250E-03	0.2081	0.2366
38	0.600	0.000	231.4	8.438E+00	7.966E-03	9.071E-03	0.2600	0.2961
40	0.650	0.000	240.8	8.318E+00	7.923E-03	9.034E-03	0.2586	0.2949
41	0.700	0.000	240.9	8.142E+00	7.756E-03	8.843E-03	0.2532	0.2886
43	0.750	0.000	236.7	7.757E+00	7.360E-03	8.387E-03	0.2402	0.2737
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	235.3	5.979E+00	5.666E-03	6.455E-03	0.1849	0.2107
11	0.150	0.091	236.7	4.846E+00	4.597E-03	5.239E-03	0.1501	0.1710
17	0.192	0.107	267.4	4.248E+00	4.152E-03	4.751E-03	0.1355	0.1551
87	0.300	-0.106	213.8	5.320E+00	4.940E-03	5.613E-03	0.1612	0.1832
88	0.300	0.061	203.5	3.947E+00	3.630E-03	4.119E-03	0.1185	0.1344
89	0.300	0.122	219.2	4.840E+00	4.517E-03	5.136E-03	0.1474	0.1676
24	0.300	0.160	224.8	4.905E+00	4.601E-03	5.235E-03	0.1502	0.1709
25	0.300	0.221	242.9	4.714E+00	4.499E-03	5.132E-03	0.1469	0.1675
90	0.400	-0.107	225.4	5.789E+00	5.434E-03	6.183E-03	0.1774	0.2018
32	0.400	0.107	222.0	3.899E+00	3.648E-03	4.149E-03	0.1191	0.1354
52	0.400	0.250	260.4	4.357E+00	4.228E-03	4.834E-03	0.1380	0.1578
91	0.425	0.061	225.7	4.757E+00	4.466E-03	5.082E-03	0.1458	0.1659
92	0.425	0.178	243.6	3.787E+00	3.617E-03	4.125E-03	0.1181	0.1346
93	0.500	-0.107	232.3	6.883E+00	6.503E-03	7.406E-03	0.2123	0.2417
35	0.500	0.107	229.7	4.577E+00	4.314E-03	4.912E-03	0.1408	0.1603
94	0.500	0.178	247.6	3.967E+00	3.804E-03	4.341E-03	0.1241	0.1417
53	0.500	0.250	278.4	3.817E+00	3.771E-03	4.321E-03	0.1231	0.1411
95	0.600	-0.250	280.1	7.191E+00	7.115E-03	8.157E-03	0.2322	0.2662
39	0.600	0.107	244.1	6.467E+00	6.180E-03	7.049E-03	0.2017	0.2301

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13.11.45
DATE RECORDED: 9-JUN-95
TIME RECORDED: 1:22:16
000011145

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
104	S10R20	J-2&K-3	29-O	7.96	330.5	1290.67	30.00	9.94	39.94	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.2	0.035	1.542	3827.	3.033E-05	7.744E-08	1.4988E+06	2.820E+06	3.064E-02	0.129

CO-AXIAL DATA

GAGE NO	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	285.2	3.990E+00	3.969E-03	4.553E-03	0.1295	0.1486
98	0.660	-0.107	253.8	7.437E+00	7.172E-03	8.192E-03	0.2341	0.2674
96	0.660	0.107	253.2	7.305E+00	7.041E-03	8.042E-03	0.2298	0.2625
97	0.660	0.250	280.5	4.816E+00	4.768E-03	5.466E-03	0.1556	0.1784
60	0.660	0.400	315.6	8.259E+00	8.470E-03	9.762E-03	0.2764	0.3186
65	0.700	0.500	275.9	5.328E+00	5.250E-03	6.015E-03	0.1714	0.1963
99	0.750	0.178	272.7	6.279E+00	6.168E-03	7.064E-03	0.2013	0.2306
100	0.755	0.400	229.3	4.641E+00	4.373E-03	4.978E-03	0.1427	0.1625
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11:49
DATE RECORDED: 9-JUN-95
TIME RECORDED: 1:25:27
000011146

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
105	S10R22	J-2&K-3	29-O	7.96	330.3	1290.67	30.00	4.92	34.92	0.07

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.2	0.035	1.541	3827.	3.031E-05	7.744E-08	1.4979E+06	2.819E+06	3.063E-02	0.125

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	254.4	8.531E+00	8.232E-03	9.403E-03	0.2688	0.3070
6	0.060	0.000	238.0	6.741E+00	6.404E-03	7.298E-03	0.2091	0.2383
7	0.080	0.000	223.4	5.831E+00	5.464E-03	6.216E-03	0.1784	0.2029
8	0.100	0.000	216.6	5.326E+00	4.959E-03	5.637E-03	0.1619	0.1840
10	0.150	0.000	214.6	4.662E+00	4.332E-03	4.923E-03	0.1415	0.1607
16	0.192	0.000	213.1	4.818E+00	4.471E-03	5.079E-03	0.1460	0.1658
20	0.250	0.000	210.3	5.939E+00	5.497E-03	6.243E-03	0.1795	0.2038
23	0.300	0.000	205.1	5.897E+00	5.433E-03	6.166E-03	0.1774	0.2013
30	0.350	0.000	219.5	6.658E+00	6.215E-03	7.067E-03	0.2029	0.2307
31	0.400	0.000	214.0	6.832E+00	6.345E-03	7.209E-03	0.2072	0.2354
33	0.450	0.000	220.7	7.349E+00	6.868E-03	7.810E-03	0.2242	0.2550
34	0.500	0.000	216.2	7.231E+00	6.730E-03	7.649E-03	0.2197	0.2497
37	0.550	0.000	217.8	7.506E+00	6.997E-03	7.954E-03	0.2284	0.2597
38	0.600	0.000	223.2	8.179E+00	7.662E-03	8.716E-03	0.2502	0.2846
40	0.650	0.000	223.1	7.170E+00	6.716E-03	7.640E-03	0.2193	0.2494
41	0.700	0.000	238.1	7.611E+00	7.230E-03	8.241E-03	0.2361	0.2690
43	0.750	0.000	237.3	7.211E+00	6.846E-03	7.802E-03	0.2235	0.2547
46	0.850	0.000	238.8	7.222E+00	6.866E-03	7.827E-03	0.2242	0.2555
49	0.950	0.000	270.4	5.373E+00	5.267E-03	6.029E-03	0.1720	0.1969
86	0.125	0.055	223.5	4.717E+00	4.420E-03	5.028E-03	0.1443	0.1642
11	0.150	0.091	233.1	4.325E+00	4.090E-03	4.659E-03	0.1335	0.1521
17	0.192	0.107	262.7	3.857E+00	3.752E-03	4.290E-03	0.1225	0.1401
87	0.300	-0.106	216.4	5.274E+00	4.909E-03	5.580E-03	0.1603	0.1822
88	0.300	0.061	198.3	3.798E+00	3.477E-03	3.942E-03	0.1135	0.1287
89	0.300	0.122	213.7	4.132E+00	3.837E-03	4.360E-03	0.1253	0.1423
24	0.300	0.160	224.5	4.081E+00	3.828E-03	4.355E-03	0.1250	0.1422
25	0.300	0.221	253.2	4.026E+00	3.881E-03	4.432E-03	0.1267	0.1447
90	0.400	-0.107	225.7	6.318E+00	5.932E-03	6.750E-03	0.1937	0.2204
32	0.400	0.107	210.9	3.853E+00	3.568E-03	4.052E-03	0.1165	0.1323
52	0.400	0.250	261.6	3.610E+00	3.509E-03	4.012E-03	0.1145	0.1310
91	0.425	0.061	220.2	6.051E+00	5.653E-03	6.428E-03	0.1846	0.2099
92	0.425	0.178	233.2	3.626E+00	3.429E-03	3.906E-03	0.1120	0.1275
93	0.500	-0.107	227.7	6.994E+00	6.579E-03	7.488E-03	0.2148	0.2445
35	0.500	0.107	224.0	6.334E+00	5.938E-03	6.756E-03	0.1939	0.2206
94	0.500	0.178	230.6	4.039E+00	3.810E-03	4.338E-03	0.1244	0.1416
53	0.500	0.250	259.1	3.549E+00	3.440E-03	3.932E-03	0.1123	0.1284
95	0.600	-0.250	275.9	7.261E+00	7.155E-03	8.198E-03	0.2336	0.2677
39	0.600	0.107	238.6	7.641E+00	7.263E-03	8.278E-03	0.2371	0.2703

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11:49
DATE RECORDED: 9-JUN-95
TIME RECORDED: 1:25.27
00001114

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
105	S10R22	J-2&K-3	29-O	7.96	330.3	1290.67	30.00	4.92	34.92	0.07

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.2	0.035	1.541	3827.	3.031E-05	7.744E-08	1.4979E+06	2.819E+06	3.063E-02	0.125

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	271.4	4.061E+00	3.984E-03	4.562E-03	0.1301	0.1489
98	0.660	-0.107	239.6	7.446E+00	7.084E-03	8.076E-03	0.2313	0.2637
96	0.660	0.107	248.4	7.663E+00	7.352E-03	8.391E-03	0.2400	0.2740
97	0.660	0.250	279.4	5.478E+00	5.417E-03	6.209E-03	0.1769	0.2027
60	0.660	0.400	324.3	7.616E+00	7.881E-03	9.096E-03	0.2573	0.2970
65	0.700	0.500	311.2	4.502E+00	4.597E-03	5.294E-03	0.1501	0.1729
99	0.750	0.178	285.2	6.853E+00	6.816E-03	7.819E-03	0.2225	0.2553
100	0.755	0.400	248.6	4.366E+00	4.190E-03	4.783E-03	0.1368	0.1561
101	0.800	-0.250	308.4	7.112E+00	7.240E-03	8.335E-03	0.2364	0.2721
45	0.800	0.107	256.9	7.321E+00	7.081E-03	8.091E-03	0.2312	0.2642
56	0.800	0.250	294.8	7.124E+00	7.153E-03	8.219E-03	0.2336	0.2683
66	0.800	0.500	261.9	9.742E+00	9.470E-03	1.083E-02	0.3092	0.3535
70	0.800	0.600	244.3	5.282E+00	5.048E-03	5.758E-03	0.1648	0.1880
75	0.800	0.750	312.2	3.335E+00	3.409E-03	3.926E-03	0.1113	0.1282
102	0.886	0.732	238.0	4.623E+00	4.392E-03	5.005E-03	0.1434	0.1634
103	0.900	-0.107	252.2	6.101E+00	5.875E-03	6.709E-03	0.1918	0.2190
57	0.900	0.250	287.0	6.504E+00	6.480E-03	7.436E-03	0.2116	0.2428

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11.53
DATE RECORDED: 9-JUN-95
TIME RECORDED: 1:33.08
000011148

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
106	S10R24	J-2&K-3	29-O	7.94	222.5	1242.67	30.00	4.92	34.92	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.9	0.024	1.050	3750.	2.150E-05	7.473E-08	1.0789E+06	2.030E+06	2.511E-02	0.283

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	444.6	4.812E+00	6.029E-03	7.141E-03	0.2401	0.2844
6	0.060	0.000	422.0	3.882E+00	4.731E-03	5.575E-03	0.1884	0.2220
7	0.080	0.000	408.6	3.115E+00	3.735E-03	4.389E-03	0.1487	0.1748
8	0.100	0.000	402.6	2.835E+00	3.375E-03	3.961E-03	0.1344	0.1577
10	0.150	0.000	391.0	2.272E+00	2.668E-03	3.124E-03	0.1063	0.1244
16	0.192	0.000	378.0	1.947E+00	2.252E-03	2.630E-03	0.0897	0.1047
20	0.250	0.000	370.1	2.004E+00	2.297E-03	2.679E-03	0.0915	0.1067
23	0.300	0.000	362.7	1.928E+00	2.191E-03	2.551E-03	0.0873	0.1016
30	0.350	0.000	359.3	1.802E+00	2.040E-03	2.374E-03	0.0812	0.0945
31	0.400	0.000	350.4	1.758E+00	1.970E-03	2.289E-03	0.0785	0.0911
33	0.450	0.000	346.9	1.682E+00	1.878E-03	2.181E-03	0.0748	0.0868
34	0.500	0.000	344.4	1.714E+00	1.908E-03	2.214E-03	0.0760	0.0882
37	0.550	0.000	346.2	1.632E+00	1.821E-03	2.114E-03	0.0725	0.0842
38	0.600	0.000	358.0	2.241E+00	2.533E-03	2.946E-03	0.1009	0.1173
40	0.650	0.000	367.4	2.983E+00	3.408E-03	3.972E-03	0.1357	0.1582
41	0.700	0.000	378.0	3.773E+00	4.363E-03	5.096E-03	0.1738	0.2029
43	0.750	0.000	382.1	3.910E+00	4.544E-03	5.311E-03	0.1809	0.2115
46	0.850	0.000	415.5	3.598E+00	4.349E-03	5.118E-03	0.1732	0.2038
49	0.950	0.000	424.6	2.760E+00	3.374E-03	3.978E-03	0.1343	0.1584
86	0.125	0.055	400.4	2.817E+00	3.344E-03	3.923E-03	0.1332	0.1562
11	0.150	0.091	389.8	2.620E+00	3.072E-03	3.596E-03	0.1223	0.1432
17	0.192	0.107	383.7	2.440E+00	2.840E-03	3.321E-03	0.1131	0.1322
87	0.300	-0.106	363.8	2.286E+00	2.601E-03	3.029E-03	0.1036	0.1206
88	0.300	0.061	370.3	2.036E+00	2.333E-03	2.721E-03	0.0929	0.1084
89	0.300	0.122	375.2	2.363E+00	2.724E-03	3.180E-03	0.1085	0.1266
24	0.300	0.160	377.2	2.347E+00	2.711E-03	3.166E-03	0.1080	0.1261
25	0.300	0.221	380.1	2.451E+00	2.841E-03	3.319E-03	0.1131	0.1322
90	0.400	-0.107	351.9	1.898E+00	2.131E-03	2.476E-03	0.0849	0.0986
32	0.400	0.107	355.8	1.843E+00	2.079E-03	2.417E-03	0.0828	0.0963
52	0.400	0.250	364.8	2.296E+00	2.616E-03	3.047E-03	0.1042	0.1213
91	0.425	0.061	352.1	1.840E+00	2.066E-03	2.401E-03	0.0823	0.0956
92	0.425	0.178	355.8	2.094E+00	2.361E-03	2.746E-03	0.0940	0.1094
93	0.500	-0.107	342.5	1.707E+00	1.896E-03	2.200E-03	0.0755	0.0876
35	0.500	0.107	344.8	1.605E+00	1.788E-03	2.075E-03	0.0712	0.0826
94	0.500	0.178	349.2	2.079E+00	2.326E-03	2.702E-03	0.0926	0.1076
53	0.500	0.250	352.7	2.257E+00	2.536E-03	2.947E-03	0.1010	0.1174
95	0.600	-0.250	349.5	1.827E+00	2.046E-03	2.376E-03	0.0815	0.0946
39	0.600	0.107	355.1	1.595E+00	1.797E-03	2.089E-03	0.0716	0.0832

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11:53
DATE RECORDED: 9-JUN-95
TIME RECORDED: 1:33:08
000011149

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
106	S10R24	J-2&K-3	29-O	7.94	222.5	1242.67	30.00	4.92	34.92	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.9	0.024	1.050	3750.	2.150E-05	7.473E-08	1.0789E+06	2.030E+06	2.511E-02	0.283

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	356.0	1.828E+00	2.062E-03	2.398E-03	0.0821	0.0955
98	0.660	-0.107	358.6	1.623E+00	1.836E-03	2.137E-03	0.0731	0.0851
96	0.660	0.107	364.4	1.758E+00	2.002E-03	2.332E-03	0.0797	0.0929
97	0.660	0.250	365.3	1.578E+00	1.799E-03	2.096E-03	0.0716	0.0835
60	0.660	0.400	399.6	3.639E+00	4.317E-03	5.063E-03	0.1719	0.2016
65	0.700	0.500	422.4	2.501E+00	3.049E-03	3.594E-03	0.1214	0.1431
99	0.750	0.178	373.7	1.446E+00	1.664E-03	1.942E-03	0.0663	0.0773
100	0.755	0.400	393.8	1.983E+00	2.337E-03	2.737E-03	0.0930	0.1090
101	0.800	-0.250	379.5	1.368E+00	1.584E-03	1.851E-03	0.0631	0.0737
45	0.800	0.107	388.0	1.113E+00	1.302E-03	1.524E-03	0.0519	0.0607
56	0.800	0.250	388.9	1.206E+00	1.413E-03	1.654E-03	0.0563	0.0659
66	0.800	0.500	439.4	4.386E+00	5.461E-03	6.460E-03	0.2175	0.2573
70	0.800	0.600	454.1	2.096E+00	2.658E-03	3.155E-03	0.1058	0.1256
75	0.800	0.750	473.3	1.912E+00	2.485E-03	2.963E-03	0.0989	0.1180
102	0.886	0.732	442.3	2.265E+00	2.830E-03	3.351E-03	0.1127	0.1334
103	0.900	-0.107	400.4	9.798E-01	1.163E-03	1.365E-03	0.0463	0.0543
57	0.900	0.250	408.0	1.250E+00	1.498E-03	1.760E-03	0.0597	0.0701

RUN 106

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11:57
DATE RECORDED: 9-JUN-95
TIME RECORDED: 1:36:41
000011150

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
107	S10R10	J-2&K-3	29-0	7.93	205.3	1238.67	30.00	9.95	39.95	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.6	0.022	0.971	3743.	1.995E-05	7.455E-08	1.0019E+06	1.885E+06	2.414E-02	0.121

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	225.4	6.762E+00	6.674E-03	7.603E-03	0.2765	0.3150
6	0.060	0.000	208.4	5.167E+00	5.015E-03	5.700E-03	0.2078	0.2362
7	0.080	0.000	199.0	4.799E+00	4.616E-03	5.240E-03	0.1913	0.2171
8	0.100	0.000	195.7	4.245E+00	4.070E-03	4.619E-03	0.1686	0.1914
10	0.150	0.000	195.0	3.537E+00	3.389E-03	3.845E-03	0.1404	0.1593
16	0.192	0.000	189.6	3.345E+00	3.188E-03	3.615E-03	0.1321	0.1498
20	0.250	0.000	181.2	3.364E+00	3.181E-03	3.603E-03	0.1318	0.1493
23	0.300	0.000	174.1	3.097E+00	2.909E-03	3.293E-03	0.1205	0.1364
30	0.350	0.000	182.9	2.989E+00	2.831E-03	3.207E-03	0.1173	0.1329
31	0.400	0.000	175.3	2.906E+00	2.733E-03	3.094E-03	0.1133	0.1282
33	0.450	0.000	178.6	2.745E+00	2.589E-03	2.932E-03	0.1073	0.1215
34	0.500	0.000	176.4	2.856E+00	2.689E-03	3.044E-03	0.1114	0.1261
37	0.550	0.000	175.2	2.777E+00	2.611E-03	2.956E-03	0.1082	0.1225
38	0.600	0.000	194.3	5.310E+00	5.084E-03	5.769E-03	0.2107	0.2390
40	0.650	0.000	205.3	5.679E+00	5.495E-03	6.244E-03	0.2277	0.2587
41	0.700	0.000	203.9	5.941E+00	5.741E-03	6.522E-03	0.2379	0.2702
43	0.750	0.000	204.2	6.080E+00	5.878E-03	6.677E-03	0.2435	0.2767
46	0.850	0.000	*****	********	********	********	******	******
49	0.950	0.000	*****	********	********	********	******	******
86	0.125	0.055	205.1	4.471E+00	4.326E-03	4.915E-03	0.1792	0.2036
11	0.150	0.091	209.6	4.242E+00	4.122E-03	4.686E-03	0.1708	0.1941
17	0.192	0.107	237.5	3.446E+00	3.442E-03	3.927E-03	0.1426	0.1627
87	0.300	-0.106	184.2	3.417E+00	3.240E-03	3.672E-03	0.1343	0.1521
88	0.300	0.061	184.8	3.191E+00	3.028E-03	3.431E-03	0.1255	0.1422
89	0.300	0.122	195.9	3.726E+00	3.573E-03	4.055E-03	0.1481	0.1680
24	0.300	0.160	201.6	3.853E+00	3.715E-03	4.219E-03	0.1539	0.1748
25	0.300	0.221	221.1	3.822E+00	3.756E-03	4.277E-03	0.1556	0.1772
90	0.400	-0.107	188.2	2.928E+00	2.788E-03	3.160E-03	0.1155	0.1309
32	0.400	0.107	191.2	2.887E+00	2.756E-03	3.126E-03	0.1142	0.1295
52	0.400	0.250	225.3	3.365E+00	3.321E-03	3.783E-03	0.1376	0.1567
91	0.425	0.061	187.3	2.831E+00	2.693E-03	3.053E-03	0.1116	0.1265
92	0.425	0.178	206.0	3.044E+00	2.947E-03	3.349E-03	0.1221	0.1388
93	0.500	-0.107	186.2	2.727E+00	2.591E-03	2.937E-03	0.1074	0.1217
35	0.500	0.107	184.2	2.666E+00	2.528E-03	2.865E-03	0.1048	0.1187
94	0.500	0.178	200.9	3.059E+00	2.948E-03	3.348E-03	0.1221	0.1387
53	0.500	0.250	215.4	3.171E+00	3.099E-03	3.525E-03	0.1284	0.1461
95	0.600	-0.250	222.6	2.711E+00	2.668E-03	3.039E-03	0.1106	0.1259
39	0.600	0.107	198.1	2.847E+00	2.736E-03	3.106E-03	0.1134	0.1287

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:11:57
DATE RECORDED: 9-JUN-95
TIME RECORDED: 1:36:41
000011151

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
107	S10R10	J-2&K-3	29-O	7.93	205.3	1238.67	30.00	9.95	39.95	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.6	0.022	0.971	3743.	1.995E-05	7.455E-08	1.0019E+06	1.885E+06	2.414E-02	0.121

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	218.3	2.825E+00	2.769E-03	3.151E-03	0.1147	0.1306
98	0.660	-0.107	203.1	2.876E+00	2.777E-03	3.154E-03	0.1151	0.1307
96	0.660	0.107	203.7	3.062E+00	2.958E-03	3.360E-03	0.1226	0.1392
97	0.660	0.250	221.7	2.681E+00	2.637E-03	3.002E-03	0.1092	0.1244
60	0.660	0.400	219.8	6.827E+00	6.701E-03	7.628E-03	0.2776	0.3161
65	0.700	0.500	206.2	4.518E+00	4.376E-03	4.972E-03	0.1813	0.2060
99	0.750	0.178	216.9	3.191E+00	3.123E-03	3.554E-03	0.1294	0.1472
100	0.755	0.400	190.0	3.649E+00	3.479E-03	3.945E-03	0.1442	0.1635
101	0.800	-0.250	*****	********	********	********	******	******
45	0.800	0.107	*****	********	********	********	******	******
56	0.800	0.250	*****	********	********	********	******	******
66	0.800	0.500	*****	********	********	********	******	******
70	0.800	0.600	*****	********	********	********	******	******
75	0.800	0.750	*****	********	********	********	******	******
102	0.886	0.732	*****	********	********	********	******	******
103	0.900	-0.107	*****	********	********	********	******	******
57	0.900	0.250	*****	********	********	********	******	******

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:12:01
DATE RECORDED: 9-JUN-95
TIME RECORDED: 1:40:36
00001115?

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
108	S10R12	J-2&K-3	29-O	7.93	208.1	1237.67	30.00	4.94	34.94	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.5	0.022	0.984	3742.	2.023E-05	7.447E-08	1.0166E+06	1.913E+06	2.429E-02	0.157

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	263.8	6.164E+00	6.329E-03	7.251E-03	0.2606	0.2985
6	0.060	0.000	248.0	4.484E+00	4.531E-03	5.178E-03	0.1865	0.2132
7	0.080	0.000	239.9	4.084E+00	4.093E-03	4.673E-03	0.1685	0.1924
8	0.100	0.000	234.3	3.278E+00	3.267E-03	3.727E-03	0.1345	0.1534
10	0.150	0.000	236.4	2.689E+00	2.685E-03	3.064E-03	0.1106	0.1261
16	0.192	0.000	230.5	2.293E+00	2.277E-03	2.596E-03	0.0937	0.1069
20	0.250	0.000	213.7	2.377E+00	2.321E-03	2.640E-03	0.0955	0.1087
23	0.300	0.000	204.3	2.256E+00	2.183E-03	2.480E-03	0.0899	0.1021
30	0.350	0.000	212.3	2.389E+00	2.330E-03	2.650E-03	0.0959	0.1091
31	0.400	0.000	202.8	2.119E+00	2.047E-03	2.325E-03	0.0843	0.0957
33	0.450	0.000	203.5	2.099E+00	2.030E-03	2.306E-03	0.0836	0.0949
34	0.500	0.000	201.6	2.292E+00	2.212E-03	2.513E-03	0.0911	0.1034
37	0.550	0.000	200.4	2.160E+00	2.083E-03	2.365E-03	0.0857	0.0973
38	0.600	0.000	211.9	3.430E+00	3.344E-03	3.803E-03	0.1377	0.1565
40	0.650	0.000	222.7	4.682E+00	4.613E-03	5.253E-03	0.1899	0.2163
41	0.700	0.000	229.1	4.963E+00	4.921E-03	5.610E-03	0.2026	0.2309
43	0.750	0.000	232.5	4.875E+00	4.850E-03	5.531E-03	0.1997	0.2277
46	0.850	0.000	243.6	4.804E+00	4.833E-03	5.520E-03	0.1990	0.2273
49	0.950	0.000	270.1	3.279E+00	3.389E-03	3.886E-03	0.1395	0.1600
86	0.125	0.055	243.4	3.153E+00	3.171E-03	3.622E-03	0.1305	0.1491
11	0.150	0.091	251.8	3.152E+00	3.197E-03	3.656E-03	0.1316	0.1505
17	0.192	0.107	270.6	2.552E+00	2.638E-03	3.026E-03	0.1086	0.1246
87	0.300	-0.106	217.8	2.582E+00	2.531E-03	2.881E-03	0.1042	0.1186
88	0.300	0.061	214.8	2.470E+00	2.415E-03	2.748E-03	0.0994	0.1131
89	0.300	0.122	227.2	2.776E+00	2.747E-03	3.131E-03	0.1131	0.1289
24	0.300	0.160	235.8	2.819E+00	2.813E-03	3.210E-03	0.1158	0.1321
25	0.300	0.221	255.5	2.783E+00	2.834E-03	3.242E-03	0.1167	0.1335
90	0.400	-0.107	215.7	2.224E+00	2.176E-03	2.475E-03	0.0896	0.1019
32	0.400	0.107	217.9	2.238E+00	2.195E-03	2.498E-03	0.0904	0.1028
52	0.400	0.250	251.1	2.545E+00	2.580E-03	2.950E-03	0.1062	0.1214
91	0.425	0.061	211.3	2.239E+00	2.182E-03	2.481E-03	0.0898	0.1021
92	0.425	0.178	230.1	2.442E+00	2.423E-03	2.763E-03	0.0998	0.1137
93	0.500	-0.107	210.2	2.171E+00	2.113E-03	2.402E-03	0.0870	0.0989
35	0.500	0.107	207.7	2.075E+00	2.014E-03	2.289E-03	0.0829	0.0942
94	0.500	0.178	220.7	2.395E+00	2.355E-03	2.682E-03	0.0970	0.1104
53	0.500	0.250	233.4	2.540E+00	2.529E-03	2.885E-03	0.1041	0.1188
95	0.600	-0.250	233.4	2.101E+00	2.092E-03	2.386E-03	0.0861	0.0982
39	0.600	0.107	215.6	2.042E+00	1.998E-03	2.274E-03	0.0823	0.0936

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 18-JUL-95
TIME COMPUTED: 13:12:01
DATE RECORDED: 9-JUN-95
TIME RECORDED: 1:40:36
00001153

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
108	S10R12	J-2&K-3	29-O	7.93	208.1	1237.67	30.00	4.94	34.94	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.5	0.022	0.984	3742.	2.023E-05	7.447E-08	1.0166E+06	1.913E+06	2.429E-02	0.157

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	230.9	2.112E+00	2.098E-03	2.392E-03	0.0864	0.0985
98	0.660	-0.107	222.8	2.235E+00	2.202E-03	2.508E-03	0.0907	0.1033
96	0.660	0.107	221.2	2.301E+00	2.263E-03	2.577E-03	0.0932	0.1061
97	0.660	0.250	235.1	2.023E+00	2.018E-03	2.302E-03	0.0831	0.0948
60	0.660	0.400	248.7	4.834E+00	4.888E-03	5.587E-03	0.2012	0.2300
65	0.700	0.500	250.6	3.684E+00	3.732E-03	4.268E-03	0.1537	0.1757
99	0.750	0.178	239.7	1.725E+00	1.729E-03	1.974E-03	0.0712	0.0813
100	0.755	0.400	221.8	2.503E+00	2.464E-03	2.806E-03	0.1014	0.1155
101	0.800	-0.250	255.7	1.987E+00	2.023E-03	2.315E-03	0.0833	0.0953
45	0.800	0.107	238.4	1.848E+00	1.849E-03	2.111E-03	0.0761	0.0869
56	0.800	0.250	248.0	1.660E+00	1.677E-03	1.917E-03	0.0690	0.0789
66	0.800	0.500	231.1	6.048E+00	6.009E-03	6.851E-03	0.2474	0.2820
70	0.800	0.600	229.6	3.429E+00	3.402E-03	3.878E-03	0.1400	0.1597
75	0.800	0.750	264.7	2.975E+00	3.058E-03	3.503E-03	0.1259	0.1442
102	0.886	0.732	241.3	2.822E+00	2.833E-03	3.235E-03	0.1166	0.1332
103	0.900	-0.107	245.6	1.755E+00	1.769E-03	2.022E-03	0.0728	0.0832
57	0.900	0.250	263.3	1.632E+00	1.675E-03	1.919E-03	0.0690	0.0790

RUN 108

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06.06.48
DATE RECORDED: 9-JUN-95
TIME RECORDED: 14.40.49
000011155

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
109	S10R26	J-2&K-3	29-0	7.96	331.4	1302.67	30.00	9.96	39.96	0.11

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.2	0.035	1.546	3846	3.011E-05	7.821E-08	1.4805E+06	2.786E+06	3.073E-02	0.164

CO-AXIAL DATA

GAGE NO	X/L	Z/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	295.1	7.838E+00	7.780E-03	8.935E-03	0.2532	0.2908
6	0.060	0.000	276.2	6.004E+00	5.849E-03	6.699E-03	0.1903	0.2180
7	0.080	0.000	264.0	5.668E+00	5.457E-03	6.239E-03	0.1776	0.2031
8	0.100	0.000	253.7	4.460E+00	4.252E-03	4.855E-03	0.1384	0.1580
10	0.150	0.000	259.4	4.188E+00	4.014E-03	4.587E-03	0.1307	0.1493
16	0.192	0.000	261.0	3.722E+00	3.573E-03	4.084E-03	0.1163	0.1329
20	0.250	0.000	241.7	3.814E+00	3.595E-03	4.098E-03	0.1170	0.1334
23	0.300	0.000	232.5	3.549E+00	3.316E-03	3.776E-03	0.1079	0.1229
30	0.350	0.000	248.2	3.463E+00	3.284E-03	3.747E-03	0.1069	0.1220
31	0.400	0.000	240.7	3.194E+00	3.007E-03	3.428E-03	0.0979	0.1116
33	0.450	0.000	238.7	3.106E+00	2.919E-03	3.327E-03	0.0950	0.1083
34	0.500	0.000	237.2	3.174E+00	2.979E-03	3.394E-03	0.0970	0.1105
37	0.550	0.000	238.3	3.036E+00	2.852E-03	3.250E-03	0.0928	0.1058
38	0.600	0.000	255.6	6.816E+00	6.510E-03	7.435E-03	0.2119	0.2420
40	0.650	0.000	268.7	7.785E+00	7.529E-03	8.615E-03	0.2450	0.2804
41	0.700	0.000	265.1	7.945E+00	7.657E-03	8.756E-03	0.2492	0.2850
43	0.750	0.000	265.8	7.670E+00	7.397E-03	8.460E-03	0.2408	0.2753
46	0.850	0.000	264.7	7.530E+00	7.254E-03	8.295E-03	0.2361	0.2700
49	0.950	0.000	253.0	6.029E+00	5.744E-03	6.558E-03	0.1870	0.2134
86	0.125	0.055	263.5	4.943E+00	4.757E-03	5.438E-03	0.1548	0.1770
11	0.150	0.091	270.2	4.352E+00	4.215E-03	4.824E-03	0.1372	0.1570
17	0.192	0.107	300.5	3.892E+00	3.883E-03	4.463E-03	0.1264	0.1453
87	0.300	-0.106	259.2	3.700E+00	3.546E-03	4.052E-03	0.1154	0.1319
88	0.300	0.061	242.3	3.741E+00	3.528E-03	4.022E-03	0.1148	0.1309
89	0.300	0.122	263.3	4.035E+00	3.883E-03	4.439E-03	0.1264	0.1445
24	0.300	0.160	278.2	4.179E+00	4.079E-03	4.673E-03	0.1327	0.1521
25	0.300	0.221	305.6	4.157E+00	4.169E-03	4.796E-03	0.1357	0.1561
90	0.400	-0.107	261.1	3.353E+00	3.219E-03	3.679E-03	0.1048	0.1197
32	0.400	0.107	266.9	3.182E+00	3.072E-03	3.514E-03	0.1000	0.1144
52	0.400	0.250	306.7	3.737E+00	3.752E-03	4.317E-03	0.1221	0.1405
91	0.425	0.061	258.4	2.947E+00	2.822E-03	3.224E-03	0.0919	0.1049
92	0.425	0.178	278.4	3.669E+00	3.582E-03	4.104E-03	0.1166	0.1336
93	0.500	-0.107	244.6	2.819E+00	2.664E-03	3.038E-03	0.0867	0.0989
35	0.500	0.107	256.1	3.131E+00	2.991E-03	3.417E-03	0.0974	0.1112
94	0.500	0.178	270.2	3.451E+00	3.343E-03	3.826E-03	0.1088	0.1245
53	0.500	0.250	281.8	3.581E+00	3.508E-03	4.021E-03	0.1142	0.1309
95	0.600	-0.250	320.3	7.630E+00	7.768E-03	8.955E-03	0.2528	0.2914
39	0.600	0.107	257.1	3.036E+00	2.904E-03	3.317E-03	0.0945	0.1080

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 19-JUL 95
TIME COMPUTED: 06:06 48
DATE RECORDED: 9-JUN 95
TIME RECORDED: 14:40 49
00001115

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
109	S10R26	J-2&K-3	29-O	7.96	331.4	1302.67	30.00	9.96	39.96	0.11

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.2	0.035	1.546	3846	3.011E-05	7.821E-08	1.4805E+06	2.786E+06	3.073E-02	0.164

CO-AXIAL DATA

GAGE NO	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	278.3	3.071E+00	2.998E-03	3.435E-03	0.0976	0.1118
98	0.660	-0.107	274.3	2.900E+00	2.820E-03	3.229E-03	0.0918	0.1051
96	0.660	0.107	258.0	3.294E+00	3.154E-03	3.603E-03	0.1026	0.1173
97	0.660	0.250	295.0	7.440E+00	7.384E-03	8.480E-03	0.2403	0.2760
60	0.660	0.400	286.6	7.856E+00	7.732E-03	8.869E-03	0.2516	0.2886
65	0.700	0.500	252.2	4.897E+00	4.662E-03	5.322E-03	0.1517	0.1732
99	0.750	0.178	274.3	7.616E+00	7.406E-03	8.480E-03	0.2410	0.2760
100	0.755	0.400	233.4	3.743E+00	3.501E-03	3.986E-03	0.1139	0.1297
101	0.800	-0.250	351.3	6.888E+00	7.240E-03	8.388E-03	0.2356	0.2730
45	0.800	0.107	253.2	3.584E+00	3.416E-03	3.900E-03	0.1112	0.1269
56	0.800	0.250	271.6	7.739E+00	7.506E-03	8.591E-03	0.2443	0.2796
66	0.800	0.500	246.2	1.014E+01	9.599E-03	1.095E-02	0.3124	0.3564
70	0.800	0.600	233.8	4.916E+00	4.599E-03	5.237E-03	0.1497	0.1704
75	0.800	0.750	236.4	4.955E+00	4.647E-03	5.293E-03	0.1512	0.1723
102	0.886	0.732	241.4	5.211E+00	4.910E-03	5.597E-03	0.1598	0.1821
103	0.900	-0.107	295.4	5.971E+00	5.928E-03	6.808E-03	0.1929	0.2216
57	0.900	0.250	278.3	6.686E+00	6.527E-03	7.478E-03	0.2124	0.2434

RUN 109

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:06 58
DATE RECORDED: 9-JUN 95
TIME RECORDED: 14:45 39
00001115?

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
110	S10R28	J-2&K-3	29-O	7.96	329.2	1300.67	30.00	4.96	34.96	0.23

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.0	0.035	1.536	3843.	2.997E-05	7.809E-08	1.4745E+06	2.775E+06	3.062E-02	0.144

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	293.8	7.287E+00	7.238E-03	8.311E-03	0.2364	0.2714
6	0.060	0.000	268.6	5.876E+00	5.693E-03	6.514E-03	0.1859	0.2128
7	0.080	0.000	239.5	4.981E+00	4.694E-03	5.350E-03	0.1533	0.1747
8	0.100	0.000	226.8	4.638E+00	4.319E-03	4.914E-03	0.1410	0.1605
10	0.150	0.000	225.6	3.922E+00	3.648E-03	4.150E-03	0.1192	0.1356
16	0.192	0.000	227.4	3.472E+00	3.235E-03	3.681E-03	0.1056	0.1202
20	0.250	0.000	211.7	3.427E+00	3.147E-03	3.574E-03	0.1028	0.1167
23	0.300	0.000	205.9	3.085E+00	2.818E-03	3.198E-03	0.0920	0.1044
30	0.350	0.000	226.1	3.233E+00	3.008E-03	3.423E-03	0.0983	0.1118
31	0.400	0.000	224.9	3.393E+00	3.154E-03	3.588E-03	0.1030	0.1172
33	0.450	0.000	227.6	3.819E+00	3.559E-03	4.050E-03	0.1162	0.1323
34	0.500	0.000	228.6	4.316E+00	4.026E-03	4.582E-03	0.1315	0.1497
37	0.550	0.000	229.6	4.687E+00	4.376E-03	4.980E-03	0.1429	0.1627
38	0.600	0.000	234.5	7.044E+00	6.607E-03	7.525E-03	0.2158	0.2458
40	0.650	0.000	235.2	7.167E+00	6.727E-03	7.662E-03	0.2197	0.2502
41	0.700	0.000	241.7	7.358E+00	6.948E-03	7.921E-03	0.2269	0.2587
43	0.750	0.000	245.7	7.004E+00	6.639E-03	7.572E-03	0.2168	0.2473
46	0.850	0.000	251.2	6.956E+00	6.628E-03	7.566E-03	0.2165	0.2471
49	0.950	0.000	243.8	5.341E+00	5.054E-03	5.763E-03	0.1650	0.1882
86	0.125	0.055	233.6	4.743E+00	4.445E-03	5.062E-03	0.1452	0.1653
11	0.150	0.091	248.9	4.799E+00	4.562E-03	5.206E-03	0.1490	0.1700
17	0.192	0.107	281.4	4.320E+00	4.239E-03	4.859E-03	0.1384	0.1587
87	0.300	-0.106	234.5	3.723E+00	3.492E-03	3.977E-03	0.1141	0.1299
88	0.300	0.061	230.9	4.509E+00	4.215E-03	4.798E-03	0.1376	0.1567
89	0.300	0.122	244.8	3.855E+00	3.651E-03	4.164E-03	0.1192	0.1360
24	0.300	0.160	256.8	3.824E+00	3.663E-03	4.184E-03	0.1196	0.1367
25	0.300	0.221	285.0	3.998E+00	3.936E-03	4.514E-03	0.1285	0.1474
90	0.400	-0.107	240.3	3.231E+00	3.047E-03	3.473E-03	0.0995	0.1134
32	0.400	0.107	266.5	4.673E+00	4.519E-03	5.169E-03	0.1476	0.1688
52	0.400	0.250	300.7	3.299E+00	3.299E-03	3.792E-03	0.1077	0.1239
91	0.425	0.061	254.7	4.564E+00	4.363E-03	4.983E-03	0.1425	0.1627
92	0.425	0.178	276.0	4.619E+00	4.508E-03	5.163E-03	0.1472	0.1686
93	0.500	-0.107	224.1	2.837E+00	2.635E-03	2.997E-03	0.0861	0.0979
35	0.500	0.107	250.2	5.238E+00	4.987E-03	5.691E-03	0.1629	0.1859
94	0.500	0.178	262.3	5.449E+00	5.247E-03	5.999E-03	0.1714	0.1959
53	0.500	0.250	268.2	4.765E+00	4.615E-03	5.280E-03	0.1507	0.1725
95	0.600	-0.250	264.9	4.047E+00	3.907E-03	4.468E-03	0.1276	0.1459
39	0.600	0.107	244.2	6.140E+00	5.812E-03	6.628E-03	0.1898	0.2165

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:06:58
DATE RECORDED: 9-JUN-95
TIME RECORDED: 14:45:39
000011158

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
110	S10R28	J-2&K-3	29-0	7.96	329.2	1300.67	30.00	4.96	34.96	0.23

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.0	0.035	1.536	3843.	2.997E-05	7.809E-08	1.4745E+06	2.775E+06	3.062E-02	0.144

CO-AXIAL DATA

GAGE NO	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	260.1	5.845E+00	5.617E-03	6.419E-03	0.1834	0.2096
98	0.660	-0.107	238.3	3.574E+00	3.364E-03	3.833E-03	0.1099	0.1252
96	0.660	0.107	243.7	6.556E+00	6.203E-03	7.074E-03	0.2026	0.2310
97	0.660	0.250	260.0	6.362E+00	6.114E-03	6.987E-03	0.1997	0.2282
60	0.660	0.400	262.0	8.899E+00	8.567E-03	9.793E-03	0.2798	0.3199
65	0.700	0.500	252.4	7.643E+00	7.291E-03	8.324E-03	0.2381	0.2718
99	0.750	0.178	255.6	6.464E+00	6.185E-03	7.065E-03	0.2020	0.2307
100	0.755	0.400	235.0	8.206E+00	7.701E-03	8.771E-03	0.2515	0.2865
101	0.800	-0.250	322.5	6.843E+00	6.996E-03	8.068E-03	0.2285	0.2635
45	0.800	0.107	256.7	6.431E+00	6.160E-03	7.037E-03	0.2012	0.2298
56	0.800	0.250	256.6	6.809E+00	6.522E-03	7.450E-03	0.2130	0.2433
66	0.800	0.500	222.7	1.034E+01	9.596E-03	1.091E-02	0.3134	0.3564
70	0.800	0.600	231.2	8.714E+00	8.148E-03	9.276E-03	0.2661	0.3029
75	0.800	0.750	227.6	5.717E+00	5.328E-03	6.063E-03	0.1740	0.1980
102	0.886	0.732	233.9	6.998E+00	6.560E-03	7.471E-03	0.2143	0.2440
103	0.900	-0.107	285.0	5.297E+00	5.215E-03	5.981E-03	0.1703	0.1953
57	0.900	0.250	275.9	5.600E+00	5.465E-03	6.259E-03	0.1785	0.2044

RUN 110

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:07.02
DATE RECORDED: 9-JUN-95
TIME RECORDED: 15:01.55
00001159

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
111	S10R30	J-2&K-3	29-0	7.93	206.1	1243.67	30.00	10.03	40.03	0.32

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.0	0.022	0.974	3751.	1.995E-05	7.487E-08	9.9937E+05	1.880E+06	2.420E-02	0.138

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	272.8	6.811E+00	7.015E-03	8.045E-03	0.2899	0.3325
6	0.060	0.000	242.9	4.495E+00	4.492E-03	5.130E-03	0.1856	0.2120
7	0.080	0.000	229.9	4.600E+00	4.538E-03	5.172E-03	0.1875	0.2137
8	0.100	0.000	215.6	3.655E+00	3.555E-03	4.045E-03	0.1469	0.1671
10	0.150	0.000	209.8	3.262E+00	3.155E-03	3.587E-03	0.1304	0.1482
16	0.192	0.000	201.9	2.862E+00	2.747E-03	3.120E-03	0.1135	0.1289
20	0.250	0.000	194.7	2.969E+00	2.830E-03	3.211E-03	0.1170	0.1327
23	0.300	0.000	192.3	2.965E+00	2.821E-03	3.199E-03	0.1166	0.1322
30	0.350	0.000	204.7	2.749E+00	2.646E-03	3.006E-03	0.1093	0.1242
31	0.400	0.000	195.9	2.609E+00	2.490E-03	2.826E-03	0.1029	0.1168
33	0.450	0.000	195.9	2.554E+00	2.438E-03	2.766E-03	0.1007	0.1143
34	0.500	0.000	193.7	2.492E+00	2.373E-03	2.692E-03	0.0981	0.1113
37	0.550	0.000	193.5	2.510E+00	2.390E-03	2.711E-03	0.0988	0.1120
38	0.600	0.000	210.3	5.094E+00	4.930E-03	5.604E-03	0.2037	0.2316
40	0.650	0.000	217.9	5.567E+00	5.426E-03	6.175E-03	0.2242	0.2552
41	0.700	0.000	215.1	5.895E+00	5.731E-03	6.519E-03	0.2368	0.2694
43	0.750	0.000	210.2	5.638E+00	5.455E-03	6.201E-03	0.2254	0.2563
46	0.850	0.000	219.9	5.681E+00	5.550E-03	6.317E-03	0.2293	0.2611
49	0.950	0.000	221.5	4.445E+00	4.348E-03	4.950E-03	0.1797	0.2046
86	0.125	0.055	222.3	4.030E+00	3.946E-03	4.493E-03	0.1631	0.1857
11	0.150	0.091	220.2	3.807E+00	3.720E-03	4.234E-03	0.1537	0.1750
17	0.192	0.107	238.8	3.372E+00	3.355E-03	3.829E-03	0.1387	0.1582
87	0.300	-0.106	201.1	3.170E+00	3.041E-03	3.453E-03	0.1257	0.1427
88	0.300	0.061	204.8	3.177E+00	3.058E-03	3.474E-03	0.1264	0.1436
89	0.300	0.122	214.2	3.335E+00	3.239E-03	3.684E-03	0.1339	0.1523
24	0.300	0.160	217.1	3.524E+00	3.433E-03	3.906E-03	0.1419	0.1614
25	0.300	0.221	232.6	3.492E+00	3.453E-03	3.938E-03	0.1427	0.1627
90	0.400	-0.107	207.9	2.670E+00	2.577E-03	2.929E-03	0.1065	0.1210
32	0.400	0.107	212.0	2.693E+00	2.610E-03	2.968E-03	0.1079	0.1226
52	0.400	0.250	238.5	3.021E+00	3.005E-03	3.479E-03	0.1242	0.1417
91	0.425	0.061	209.2	2.587E+00	2.501E-03	2.842E-03	0.1033	0.1175
92	0.425	0.178	221.5	2.959E+00	2.895E-03	3.296E-03	0.1196	0.1362
93	0.500	-0.107	201.5	2.381E+00	2.285E-03	2.594E-03	0.0944	0.1072
35	0.500	0.107	201.7	2.331E+00	2.237E-03	2.540E-03	0.0924	0.1050
94	0.500	0.178	211.4	2.833E+00	2.744E-03	3.120E-03	0.1134	0.1289
53	0.500	0.250	220.9	2.927E+00	2.862E-03	3.258E-03	0.1183	0.1346
95	0.600	-0.250	219.0	2.734E+00	2.668E-03	3.036E-03	0.1102	0.1255
39	0.600	0.107	208.5	2.538E+00	2.452E-03	2.786E-03	0.1013	0.1151

RUN 111

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:07:02
DATE RECORDED: 9-JUN-95
TIME RECORDED: 15:01:55
000011160

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
111	S10R30	J-2&K-3	29-0	7.93	206.1	1243.67	30.00	10.03	40.03	0.32

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.0	0.022	0.974	3751	1.995E-05	7.487E-08	9.9937E+05	1.880E+06	2.420E-02	0.138

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	219.7	2.641E+00	2.579E-03	2.935E-03	0.1066	0.1213
98	0.660	0.107	211.8	2.557E+00	2.476E-03	2.818E-03	0.1024	0.1164
96	0.660	0.107	215.0	2.827E+00	2.748E-03	3.126E-03	0.1136	0.1292
97	0.660	0.250	227.2	2.379E+00	2.340E-03	2.667E-03	0.0967	0.1102
60	0.660	0.400	224.4	5.227E+00	5.128E-03	5.841E-03	0.2119	0.2414
65	0.700	0.500	211.2	4.343E+00	4.206E-03	4.782E-03	0.1738	0.1976
99	0.750	0.178	219.6	2.199E+00	2.147E-03	2.444E-03	0.0887	0.1010
100	0.755	0.400	195.2	2.920E+00	2.785E-03	3.160E-03	0.1151	0.1306
101	0.800	-0.250	225.5	2.200E+00	2.160E-03	2.461E-03	0.0893	0.1017
45	0.800	0.107	212.7	2.142E+00	2.078E-03	2.363E-03	0.0859	0.0976
56	0.800	0.250	217.6	2.269E+00	2.211E-03	2.516E-03	0.0914	0.1040
66	0.800	0.500	211.6	7.666E+00	7.428E-03	8.445E-03	0.3069	0.3490
70	0.800	0.600	202.8	3.892E+00	3.739E-03	4.247E-03	0.1545	0.1755
75	0.800	0.750	199.9	4.518E+00	4.328E-03	4.913E-03	0.1789	0.2030
102	0.886	0.732	206.5	3.857E+00	3.718E-03	4.225E-03	0.1537	0.1746
103	0.900	-0.107	211.5	1.884E+00	1.825E-03	2.075E-03	0.0754	0.0858
57	0.900	0.250	224.4	2.151E+00	2.111E-03	2.404E-03	0.0872	0.0993

RUN 111

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06 07 19
DATE RECORDED: 9-JUN-95
TIME RECORDED: 15:06:16
000011161

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
112	S10R32	J-2&K-3	29-0	7.93	207.0	1237.67	30.00	4.92	34.92	0.00

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.6	0.022	0.979	3742.	2.013E-05	7.447E-08	1.0115E+06	1.903E+06	2.423E-02	0.156

CO-AXIAL DATA

GAGE NO	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(9TT)/ HREF
3	0.040	0.000	300.2	5.028E+00	5.363E-03	6.179E-03	0.2214	0.2550
6	0.060	0.000	275.8	3.561E+00	3.702E-03	4.249E-03	0.1528	0.1754
7	0.080	0.000	254.8	3.120E+00	3.174E-03	3.631E-03	0.1310	0.1499
8	0.100	0.000	242.9	2.988E+00	3.004E-03	3.431E-03	0.1240	0.1416
10	0.150	0.000	231.8	2.376E+00	2.362E-03	2.693E-03	0.0975	0.1112
16	0.192	0.000	227.3	2.145E+00	2.123E-03	2.419E-03	0.0876	0.0998
20	0.250	0.000	210.9	2.097E+00	2.042E-03	2.322E-03	0.0843	0.0958
23	0.300	0.000	204.8	2.009E+00	1.945E-03	2.210E-03	0.0803	0.0912
30	0.350	0.000	215.5	1.929E+00	1.887E-03	2.147E-03	0.0779	0.0886
31	0.400	0.000	209.8	2.007E+00	1.953E-03	2.220E-03	0.0806	0.0916
33	0.450	0.000	206.6	1.804E+00	1.749E-03	1.988E-03	0.0722	0.0821
34	0.500	0.000	202.8	1.823E+00	1.762E-03	2.001E-03	0.0727	0.0826
37	0.550	0.000	203.6	1.869E+00	1.807E-03	2.053E-03	0.0746	0.0847
38	0.600	0.000	209.9	3.169E+00	3.084E-03	3.506E-03	0.1273	0.1447
40	0.650	0.000	218.2	4.466E+00	4.381E-03	4.986E-03	0.1808	0.2058
41	0.700	0.000	222.9	4.642E+00	4.574E-03	5.209E-03	0.1888	0.2150
43	0.750	0.000	221.5	4.401E+00	4.331E-03	4.932E-03	0.1788	0.2036
46	0.850	0.000	226.4	4.213E+00	4.166E-03	4.747E-03	0.1719	0.1959
49	0.950	0.000	203.4	3.269E+00	3.160E-03	3.590E-03	0.1304	0.1482
86	0.125	0.055	242.7	2.883E+00	2.898E-03	3.309E-03	0.1196	0.1366
11	0.150	0.091	240.9	2.621E+00	2.630E-03	3.003E-03	0.1085	0.1239
17	0.192	0.107	254.3	2.407E+00	2.448E-03	2.800E-03	0.1010	0.1156
87	0.300	-0.106	217.0	2.235E+00	2.190E-03	2.492E-03	0.0904	0.1029
88	0.300	0.061	217.2	2.366E+00	2.318E-03	2.638E-03	0.0957	0.1089
89	0.300	0.122	226.6	2.330E+00	2.305E-03	2.626E-03	0.0951	0.1084
24	0.300	0.160	235.7	2.472E+00	2.467E-03	2.815E-03	0.1018	0.1162
25	0.300	0.221	248.5	2.504E+00	2.532E-03	2.894E-03	0.1045	0.1194
90	0.400	-0.107	219.7	1.948E+00	1.914E-03	2.179E-03	0.0790	0.0899
32	0.400	0.107	227.9	1.976E+00	1.957E-03	2.230E-03	0.0807	0.0920
52	0.400	0.250	252.9	2.131E+00	2.164E-03	2.475E-03	0.0893	0.1022
91	0.425	0.061	218.9	1.900E+00	1.865E-03	2.123E-03	0.0770	0.0876
92	0.425	0.178	231.6	2.152E+00	2.139E-03	2.439E-03	0.0883	0.1007
93	0.500	-0.107	210.1	1.758E+00	1.711E-03	1.945E-03	0.0706	0.0803
35	0.500	0.107	211.6	1.677E+00	1.635E-03	1.859E-03	0.0675	0.0767
94	0.500	0.178	224.2	2.025E+00	1.998E-03	2.276E-03	0.0825	0.0939
53	0.500	0.250	230.7	2.208E+00	2.192E-03	2.499E-03	0.0905	0.1032
95	0.600	0.250	222.6	1.900E+00	1.871E-03	2.131E-03	0.0772	0.0880
39	0.600	0.107	215.4	1.838E+00	1.798E-03	2.045E-03	0.0742	0.0844

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06 07 20
DATE RECORDED: 9-JUN 95
TIME RECORDED: 15:06:16
000011162

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
112	S10R32	J-2&K-3	29-0	7.93	207.0	1237.67	30.00	4.92	34.92	0.00

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.6	0.027	0.979	3742.	2.013E-05	7.447E-08	1.0115E+06	1.903E+06	2.423E-02	0.156

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	224.4	1.919E+00	1.894E-03	2.157E-03	0.0782	0.0890
98	0.660	-0.107	216.0	1.826E+00	1.787E-03	2.033E-03	0.0737	0.0839
96	0.660	0.107	220.0	2.035E+00	2.000E-03	2.277E-03	0.0825	0.0940
97	0.660	0.250	229.6	1.674E+00	1.660E-03	1.893E-03	0.0685	0.0781
60	0.660	0.400	234.1	4.022E+00	4.008E-03	4.572E-03	0.1654	0.1887
65	0.700	0.500	230.8	3.338E+00	3.315E-03	3.780E-03	0.1368	0.1560
99	0.750	0.178	226.4	1.646E+00	1.628E-03	1.855E-03	0.0672	0.0766
100	0.755	0.400	210.5	2.292E+00	2.232E-03	2.537E-03	0.0921	0.1047
101	0.800	-0.250	231.8	1.467E+00	1.458E-03	1.663E-03	0.0602	0.0686
45	0.800	0.107	225.1	1.618E+00	1.598E-03	1.820E-03	0.0659	0.0751
56	0.800	0.250	223.1	1.578E+00	1.555E-03	1.771E-03	0.0642	0.0731
66	0.800	0.500	214.3	5.648E+00	5.519E-03	6.278E-03	0.2278	0.2591
70	0.800	0.600	217.4	3.092E+00	3.030E-03	3.448E-03	0.1251	0.1423
75	0.800	0.750	229.3	2.941E+00	2.917E-03	3.325E-03	0.1204	0.1372
102	0.886	0.732	219.1	2.733E+00	2.683E-03	3.054E-03	0.1107	0.1260
103	0.900	-0.107	223.2	1.255E+00	1.237E-03	1.409E-03	0.0510	0.0581
57	0.900	0.250	233.4	1.444E+00	1.438E-03	1.640E-03	0.0593	0.0677

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:07:23
DATE RECORDED: 9-JUN-95
TIME RECORDED: 15:24:42
00001110

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
113	S10R14	J-2&K-3	29-O	7.90	127.5	1239.67	30.00	9.97	39.97	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.3	0.014	0.611	3743.	1.257E-05	7.510E-08	6.2644E+05	1.179E+06	1.916E-02	0.122

CO-AXIAL DATA

GAGE NO	X/I	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	222.5	5.689E+00	5.593E-03	6.369E-03	0.2919	0.3324
6	0.060	0.000	203.9	4.106E+00	3.964E-03	4.503E-03	0.2069	0.2350
7	0.080	0.000	195.5	3.964E+00	3.796E-03	4.308E-03	0.1982	0.2249
8	0.100	0.000	190.6	3.307E+00	3.153E-03	3.575E-03	0.1646	0.1866
10	0.150	0.000	191.1	2.885E+00	2.751E-03	3.120E-03	0.1436	0.1629
16	0.192	0.000	180.4	2.632E+00	2.485E-03	2.814E-03	0.1297	0.1469
20	0.250	0.000	177.3	2.522E+00	2.374E-03	2.687E-03	0.1239	0.1403
23	0.300	0.000	173.3	2.509E+00	2.353E-03	2.662E-03	0.1228	0.1390
30	0.350	0.000	179.9	2.259E+00	2.131E-03	2.413E-03	0.1112	0.1260
31	0.400	0.000	171.0	2.227E+00	2.084E-03	2.358E-03	0.1088	0.1231
33	0.450	0.000	171.7	2.271E+00	2.126E-03	2.406E-03	0.1110	0.1256
34	0.500	0.000	170.6	2.157E+00	2.018E-03	2.282E-03	0.1053	0.1191
37	0.550	0.000	172.0	2.174E+00	2.046E-03	2.316E-03	0.1068	0.1209
38	0.600	0.000	188.9	2.834E+00	2.697E-03	3.058E-03	0.1408	0.1596
40	0.650	0.000	184.5	2.547E+00	2.414E-03	2.735E-03	0.1260	0.1428
41	0.700	0.000	182.0	2.566E+00	2.426E-03	2.749E-03	0.1267	0.1435
43	0.750	0.000	178.5	2.419E+00	2.280E-03	2.582E-03	0.1190	0.1348
46	0.850	0.000	197.0	4.211E+00	4.038E-03	4.583E-03	0.2108	0.2393
49	0.950	0.000	208.9	5.942E+00	5.765E-03	6.553E-03	0.3009	0.3420
86	0.125	0.055	194.5	3.164E+00	3.027E-03	3.434E-03	0.1580	0.1793
11	0.150	0.091	190.8	3.215E+00	3.065E-03	3.476E-03	0.1600	0.1815
17	0.192	0.107	203.6	2.874E+00	2.774E-03	3.151E-03	0.1448	0.1645
87	0.300	-0.106	176.8	2.713E+00	2.552E-03	2.889E-03	0.1332	0.1508
88	0.300	0.061	183.5	2.626E+00	2.486E-03	2.816E-03	0.1298	0.1470
89	0.300	0.122	187.2	2.770E+00	2.632E-03	2.984E-03	0.1374	0.1557
24	0.300	0.160	189.5	3.147E+00	2.997E-03	3.398E-03	0.1564	0.1774
25	0.300	0.221	197.4	3.200E+00	3.070E-03	3.484E-03	0.1602	0.1819
90	0.400	-0.107	180.6	2.315E+00	2.186E-03	2.475E-03	0.1141	0.1292
32	0.400	0.107	180.9	2.310E+00	2.182E-03	2.471E-03	0.1139	0.1290
52	0.400	0.250	201.6	2.638E+00	2.542E-03	2.886E-03	0.1327	0.1507
91	0.425	0.061	178.9	2.168E+00	2.043E-03	2.314E-03	0.1067	0.1208
92	0.425	0.178	186.7	2.579E+00	2.449E-03	2.776E-03	0.1278	0.1449
93	0.500	-0.107	175.9	2.154E+00	2.025E-03	2.292E-03	0.1057	0.1197
35	0.500	0.107	171.5	2.098E+00	1.965E-03	2.222E-03	0.1025	0.1160
94	0.500	0.178	178.1	2.413E+00	2.273E-03	2.574E-03	0.1187	0.1343
53	0.500	0.250	187.6	2.657E+00	2.525E-03	2.863E-03	0.1318	0.1494
95	0.600	-0.250	196.6	2.634E+00	2.526E-03	2.866E-03	0.1318	0.1496
39	0.600	0.107	195.4	2.430E+00	2.326E-03	2.640E-03	0.1214	0.1378

RUN 113

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:07:23
DATE RECORDED: 9-JUN-95
TIME RECORDED: 15:24:42
000011164

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PRIBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
113	S10R14	J-2&K-3	29-0	7.90	127.5	1239.67	30.00	9.97	39.97	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.3	0.014	0.611	3743.	1.257E-05	7.510E-08	6.2644E+05	1.179E+06	1.916E-02	0.122

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	197.9	2.515E+00	2.414E-03	2.740E-03	0.1260	0.1430
98	0.650	-0.107	186.1	2.354E+00	2.234E-03	2.532E-03	0.1166	0.1322
96	0.660	0.107	190.2	2.460E+00	2.344E-03	2.658E-03	0.1223	0.1387
97	0.660	0.250	193.3	2.189E+00	2.092E-03	2.373E-03	0.1092	0.1239
60	0.660	0.400	185.2	4.062E+00	3.852E-03	4.365E-03	0.2011	0.2279
65	0.700	0.500	182.9	3.909E+00	3.699E-03	4.190E-03	0.1931	0.2187
99	0.750	0.178	193.5	1.834E+00	1.753E-03	1.989E-03	0.0915	0.1038
100	0.755	0.400	178.6	2.461E+00	2.319E-03	2.626E-03	0.1211	0.1371
101	0.800	-0.250	196.7	2.114E+00	2.027E-03	2.300E-03	0.1058	0.1201
45	0.800	0.107	193.3	2.420E+00	2.313E-03	2.624E-03	0.1207	0.1370
56	0.800	0.250	194.1	2.044E+00	1.955E-03	2.218E-03	0.1021	0.1158
66	0.800	0.500	188.5	5.875E+00	5.589E-03	6.336E-03	0.2918	0.3308
70	0.800	0.600	186.2	4.172E+00	3.961E-03	4.489E-03	0.2067	0.2343
75	0.800	0.750	183.3	5.230E+00	4.951E-03	5.609E-03	0.2584	0.2928
102	0.886	0.732	181.3	6.406E+00	6.053E-03	6.856E-03	0.3160	0.3579
103	0.900	-0.107	206.3	6.144E+00	5.946E-03	6.756E-03	0.3104	0.3527
57	0.900	0.250	210.5	6.221E+00	6.045E-03	6.873E-03	0.3155	0.3588

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL 95
TIME COMPUTED: 06:07 26
DATE RECORDED: 9-JUN-95
TIME RECORDED: 15:34 54
00001116S

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
114	S10R16	J-2&K-3	29-O	7.90	126.8	1239.67	30.00	4.92	34.92	0.01

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.3	0.014	0.608	3743	1.250E-05	7.510E-08	6.2303E+05	1.172E+06	1.911E-02	0.126

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	227.8	5.058E+00	4.999E-03	5.697E-03	0.2617	0.2982
6	0.060	0.000	210.5	3.894E+00	3.783E-03	4.302E-03	0.1980	0.2251
7	0.080	0.000	199.4	3.518E+00	3.382E-03	3.840E-03	0.1770	0.2010
8	0.100	0.000	194.2	3.063E+00	2.930E-03	3.324E-03	0.1533	0.1740
10	0.150	0.000	192.2	2.530E+00	2.416E-03	2.740E-03	0.1264	0.1434
16	0.192	0.000	182.3	2.270E+00	2.146E-03	2.431E-03	0.1123	0.1273
20	0.250	0.000	178.1	2.202E+00	2.075E-03	2.349E-03	0.1086	0.1229
23	0.300	0.000	173.1	2.116E+00	1.984E-03	2.245E-03	0.1039	0.1175
30	0.350	0.000	180.0	2.015E+00	1.901E-03	2.153E-03	0.0995	0.1127
31	0.400	0.000	171.9	1.972E+00	1.847E-03	2.089E-03	0.0967	0.1093
33	0.450	0.000	172.4	1.969E+00	1.845E-03	2.087E-03	0.0966	0.1092
34	0.500	0.000	171.5	1.836E+00	1.719E-03	1.945E-03	0.0900	0.1018
37	0.550	0.000	175.5	1.972E+00	1.853E-03	2.098E-03	0.0970	0.1098
38	0.600	0.000	185.7	2.271E+00	2.155E-03	2.442E-03	0.1128	0.1278
40	0.650	0.000	193.9	2.249E+00	2.151E-03	2.440E-03	0.1126	0.1277
41	0.700	0.000	194.2	2.495E+00	2.387E-03	2.708E-03	0.1249	0.1417
43	0.750	0.000	190.3	2.707E+00	2.580E-03	2.925E-03	0.1350	0.1531
46	0.850	0.000	196.1	2.388E+00	2.288E-03	2.597E-03	0.1198	0.1359
49	0.950	0.000	202.2	2.169E+00	2.090E-03	2.374E-03	0.1094	0.1243
86	0.125	0.055	199.2	2.973E+00	2.858E-03	3.244E-03	0.1496	0.1698
11	0.150	0.091	195.4	2.867E+00	2.745E-03	3.115E-03	0.1437	0.1630
17	0.192	0.107	208.3	2.479E+00	2.404E-03	2.732E-03	0.1258	0.1430
87	0.300	-0.106	179.1	2.396E+00	2.260E-03	2.559E-03	0.1183	0.1339
88	0.300	0.061	183.7	2.344E+00	2.220E-03	2.515E-03	0.1162	0.1316
89	0.300	0.122	188.3	2.476E+00	2.355E-03	2.670E-03	0.1233	0.1397
24	0.300	0.160	190.1	2.693E+00	2.566E-03	2.909E-03	0.1343	0.1523
25	0.300	0.221	199.5	2.653E+00	2.550E-03	2.895E-03	0.1335	0.1515
90	0.400	-0.107	181.4	1.980E+00	1.871E-03	2.120E-03	0.0979	0.1109
32	0.400	0.107	182.1	1.989E+00	1.881E-03	2.130E-03	0.0984	0.1115
52	0.400	0.250	203.4	2.329E+00	2.248E-03	2.553E-03	0.1177	0.1336
91	0.425	0.061	179.4	1.974E+00	1.862E-03	2.108E-03	0.0975	0.1104
92	0.425	0.178	188.1	2.216E+00	2.108E-03	2.389E-03	0.1103	0.1251
93	0.500	-0.107	177.4	1.867E+00	1.757E-03	1.990E-03	0.0920	0.1041
35	0.500	0.107	173.9	1.775E+00	1.665E-03	1.884E-03	0.0872	0.0986
94	0.500	0.178	180.7	2.071E+00	1.956E-03	2.215E-03	0.1024	0.1159
53	0.500	0.250	189.1	2.283E+00	2.173E-03	2.464E-03	0.1137	0.1290
95	0.600	-0.250	196.7	2.161E+00	2.072E-03	2.352E-03	0.1085	0.1231
39	0.600	0.107	191.8	2.013E+00	1.921E-03	2.179E-03	0.1006	0.1141

RUN 114

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:07:27
DATE RECORDED: 9-JUN-95
TIME RECORDED: 15:34:54
000011166

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
114	S10R16	J-2&K-3	29-0	7.90	126.8	1239.67	30.00	4.92	34.92	-0.01

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.3	0.014	0.608	3743.	1.250E-05	7.510E-08	6.2303E+05	1.172E+06	1.911E-02	0.126

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	197.4	2.110E+00	2.025E-03	2.298E-03	0.1060	0.1203
98	0.660	-0.107	199.2	2.344E+00	2.253E-03	2.558E-03	0.1179	0.1339
96	0.660	0.107	202.4	2.420E+00	2.333E-03	2.650E-03	0.1221	0.1387
97	0.660	0.250	208.0	2.112E+00	2.047E-03	2.326E-03	0.1071	0.1218
60	0.660	0.400	198.7	3.273E+00	3.144E-03	3.569E-03	0.1646	0.1868
65	0.700	0.500	195.1	4.407E+00	4.219E-03	4.787E-03	0.2208	0.2505
99	0.750	0.178	205.0	2.482E+00	2.399E-03	2.725E-03	0.1256	0.1426
100	0.755	0.400	191.1	3.086E+00	2.943E-03	3.337E-03	0.1540	0.1747
101	0.800	-0.250	206.7	2.552E+00	2.471E-03	2.808E-03	0.1293	0.1470
45	0.800	0.107	200.6	2.677E+00	2.576E-03	2.925E-03	0.1348	0.1531
56	0.800	0.250	202.1	2.669E+00	2.572E-03	2.921E-03	0.1346	0.1529
66	0.800	0.500	190.2	3.685E+00	3.512E-03	3.982E-03	0.1838	0.2084
70	0.800	0.600	195.5	4.080E+00	3.907E-03	4.433E-03	0.2045	0.2320
75	0.800	0.750	189.2	4.463E+00	4.248E-03	4.816E-03	0.2223	0.2521
102	0.886	0.732	182.5	4.564E+00	4.318E-03	4.891E-03	0.2260	0.2560
103	0.900	-0.107	198.2	2.323E+00	2.230E-03	2.532E-03	0.1167	0.1325
57	0.900	0.250	208.0	2.465E+00	2.389E-03	2.716E-03	0.1251	0.1421

RUN 114

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:07:50
DATE RECORDED: 9-JUN-95
TIME RECORDED: 15:50:16
00001116?

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
115	S10R 0	J-2&K-3	29-0	7.97	448.6	1317.67	30.00	9.98	39.98	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.0	0.047	2.078	3871	3.995E-05	7.889E-08	1.9600E+06	3.688E+06	3.569E-02	0.318

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(91T) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(91T)/ HREF
3	0.040	0.000	551.3	8.491E+00	1.108E-02	1.338E-02	0.3104	0.3749
6	0.060	0.000	535.8	6.382E+00	8.163E-03	9.818E-03	0.2287	0.2751
7	0.080	0.000	522.2	5.292E+00	6.652E-03	7.973E-03	0.1864	0.2234
8	0.100	0.000	510.7	5.047E+00	6.253E-03	7.474E-03	0.1752	0.2094
10	0.150	0.000	483.6	4.122E+00	4.942E-03	5.870E-03	0.1385	0.1645
16	0.192	0.000	459.3	3.752E+00	4.371E-03	5.164E-03	0.1225	0.1447
20	0.250	0.000	448.2	3.589E+00	4.127E-03	4.864E-03	0.1156	0.1363
23	0.300	0.000	437.9	3.343E+00	3.800E-03	4.470E-03	0.1065	0.1252
30	0.350	0.000	430.9	3.171E+00	3.576E-03	4.200E-03	0.1002	0.1177
31	0.400	0.000	419.8	2.940E+00	3.275E-03	3.838E-03	0.0918	0.1075
33	0.450	0.000	416.5	2.944E+00	3.267E-03	3.827E-03	0.0915	0.1072
34	0.500	0.000	412.6	3.006E+00	3.322E-03	3.888E-03	0.0931	0.1089
37	0.550	0.000	410.7	2.898E+00	3.195E-03	3.738E-03	0.0895	0.1047
38	0.600	0.000	439.2	8.072E+00	9.189E-03	1.081E-02	0.2575	0.3029
40	0.650	0.000	446.5	9.078E+00	1.042E-02	1.228E-02	0.2920	0.3440
41	0.700	0.000	446.0	8.896E+00	1.021E-02	1.202E-02	0.2859	0.3369
43	0.750	0.000	440.3	8.441E+00	9.621E-03	1.132E-02	0.2696	0.3172
46	0.850	0.000	445.3	8.364E+00	9.588E-03	1.129E-02	0.2686	0.3164
49	0.950	0.000	446.0	6.527E+00	7.488E-03	8.821E-03	0.2098	0.2472
86	0.125	0.055	501.5	5.083E+00	6.229E-03	7.428E-03	0.1745	0.2081
11	0.150	0.091	481.1	4.768E+00	5.699E-03	6.765E-03	0.1597	0.1895
17	0.192	0.107	461.7	4.430E+00	5.176E-03	6.118E-03	0.1450	0.1714
87	0.300	-0.106	435.3	3.894E+00	4.413E-03	5.188E-03	0.1237	0.1454
88	0.300	0.061	441.8	3.496E+00	3.991E-03	4.698E-03	0.1118	0.1316
89	0.300	0.122	443.2	4.205E+00	4.809E-03	5.662E-03	0.1347	0.1587
24	0.300	0.160	441.1	4.396E+00	5.015E-03	5.902E-03	0.1405	0.1654
25	0.300	0.221	438.0	4.375E+00	4.974E-03	5.850E-03	0.1394	0.1639
90	0.400	-0.107	419.8	3.429E+00	3.819E-03	4.476E-03	0.1070	0.1254
32	0.400	0.107	421.6	3.104E+00	3.464E-03	4.061E-03	0.0971	0.1138
52	0.400	0.250	423.2	3.859E+00	4.314E-03	5.060E-03	0.1209	0.1418
91	0.425	0.061	420.0	3.076E+00	3.427E-03	4.017E-03	0.0960	0.1125
92	0.425	0.178	419.9	3.812E+00	4.247E-03	4.977E-03	0.1190	0.1395
93	0.500	-0.107	409.5	2.811E+00	3.096E-03	3.621E-03	0.0867	0.1015
35	0.500	0.107	410.3	2.669E+00	2.941E-03	3.441E-03	0.0824	0.0964
94	0.500	0.178	414.9	3.516E+00	3.895E-03	4.560E-03	0.1091	0.1278
53	0.500	0.250	416.4	3.690E+00	4.094E-03	4.795E-03	0.1147	0.1344
95	0.600	-0.250	418.6	3.243E+00	3.607E-03	4.227E-03	0.1011	0.1184
39	0.600	0.107	421.7	2.942E+00	3.284E-03	3.850E-03	0.0920	0.1079

RUN 115

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:07:50
DATE RECORDED: 9-JUN-95
TIME RECORDED: 15:50:16
000011168

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
115	S10R 0	J-2&K-3	29-O	7.97	448.6	1317.57	30.00	9.98	39.98	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.0	0.047	2.078	3871	3.995E-05	7.889E-08	1.9600E+06	3.688E+06	3.569E-02	0.318

CO-AXIAL DATA

CAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	425.5	3.174E+00	3.558E-03	4.174E-03	0.0997	0.1170
98	0.660	-0.107	422.6	3.071E+00	3.431E-03	4.023E-03	0.0961	0.1127
96	0.660	0.107	433.3	3.314E+00	3.747E-03	4.403E-03	0.1050	0.1234
97	0.660	0.250	437.9	2.740E+00	3.115E-03	3.663E-03	0.0873	0.1026
60	0.660	0.400	471.0	8.175E+00	9.656E-03	1.144E-02	0.2705	0.3204
65	0.700	0.500	483.6	4.247E+00	5.092E-03	6.048E-03	0.1427	0.1694
99	0.750	0.178	438.0	2.972E+00	3.378E-03	3.974E-03	0.0947	0.1113
100	0.755	0.400	472.9	3.037E+00	3.595E-03	4.259E-03	0.1007	0.1193
101	0.800	-0.250	430.9	3.636E+00	4.100E-03	4.815E-03	0.1149	0.1349
45	0.800	0.107	435.2	3.193E+00	3.618E-03	4.253E-03	0.1014	0.1192
56	0.800	0.250	445.6	3.442E+00	3.947E-03	4.649E-03	0.1106	0.1303
66	0.800	0.500	515.1	1.024E+01	1.275E-02	1.526E-02	0.3574	0.4276
70	0.800	0.600	524.7	3.653E+00	4.606E-03	5.524E-03	0.1291	0.1548
75	0.800	0.750	541.9	3.670E+00	4.731E-03	5.699E-03	0.1326	0.1597
102	0.886	0.732	543.3	3.641E+00	4.702E-03	5.667E-03	0.1318	0.1588
103	0.900	-0.107	428.9	4.641E+00	5.222E-03	6.131E-03	0.1463	0.1718
57	0.900	0.250	451.0	4.573E+00	5.276E-03	6.222E-03	0.1478	0.1743

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06 07 53
DATE RECORDED: 9-JUN-95
TIME RECORDED: 16:15 57
000011169

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
116	S1R25	ZERO	29-0	8.01	852.3	1345.67	30.00	9.97	39.97	-0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
99.6	0.087	3.905	3920	7.319E-05	8.014E-08	3.5800E+06	6.736E+06	4.909E-02	0.374

CO-AXIAL DATA

GAGE NO	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	601.0	1.254E+01	1.684E-02	2.055E-02	0.3429	0.4186
6	0.060	0.000	583.6	9.111E+00	1.196E-02	1.452E-02	0.2435	0.2958
7	0.080	0.000	572.2	7.624E+00	9.856E-03	1.193E-02	0.2008	0.2430
8	0.100	0.000	566.1	7.236E+00	9.282E-03	1.122E-02	0.1891	0.2285
10	0.150	0.000	549.4	5.692E+00	7.148E-03	8.602E-03	0.1456	0.1752
16	0.192	0.000	536.2	5.108E+00	6.311E-03	7.569E-03	0.1285	0.1542
20	0.250	0.000	533.5	5.063E+00	6.234E-03	7.472E-03	0.1270	0.1522
23	0.300	0.000	528.1	4.964E+00	6.071E-03	7.267E-03	0.1237	0.1480
30	0.350	0.000	524.9	4.419E+00	5.384E-03	6.439E-03	0.1097	0.1312
31	0.400	0.000	520.3	4.156E+00	5.035E-03	6.016E-03	0.1026	0.1225
33	0.450	0.000	525.0	4.362E+00	5.315E-03	6.358E-03	0.1083	0.1295
34	0.500	0.000	531.5	4.877E+00	5.990E-03	7.176E-03	0.1220	0.1462
37	0.550	0.000	542.2	5.478E+00	6.818E-03	8.190E-03	0.1389	0.1668
38	0.600	0.000	565.6	7.185E+00	9.211E-03	1.113E-02	0.1876	0.2267
40	0.650	0.000	578.2	8.968E+00	1.169E-02	1.417E-02	0.2380	0.2886
41	0.700	0.000	585.2	1.072E+01	1.409E-02	1.712E-02	0.2871	0.3488
43	0.750	0.000	586.8	1.185E+01	1.561E-02	1.898E-02	0.3180	0.3866
46	0.850	0.000	591.0	1.274E+01	1.688E-02	2.054E-02	0.3438	0.4184
49	0.950	0.000	575.8	1.017E+01	1.321E-02	1.601E-02	0.2691	0.3261
86	0.125	0.055	562.8	7.113E+00	9.085E-03	1.097E-02	0.1851	0.2235
11	0.150	0.091	549.3	6.588E+00	8.274E-03	9.956E-03	0.1685	0.2028
17	0.192	0.107	540.7	5.991E+00	7.442E-03	8.936E-03	0.1516	0.1820
87	0.300	-0.106	527.9	5.632E+00	6.887E-03	8.244E-03	0.1403	0.1679
88	0.300	0.061	532.0	5.077E+00	6.241E-03	7.477E-03	0.1271	0.1523
89	0.300	0.122	534.4	5.880E+00	7.249E-03	8.690E-03	0.1476	0.1770
24	0.300	0.160	532.6	6.271E+00	7.713E-03	9.243E-03	0.1571	0.1883
25	0.300	0.221	530.6	6.300E+00	7.730E-03	9.258E-03	0.1574	0.1886
90	0.400	-0.107	520.8	4.612E+00	5.591E-03	6.681E-03	0.1139	0.1361
32	0.400	0.107	522.7	4.574E+00	5.557E-03	6.644E-03	0.1132	0.1353
52	0.400	0.250	524.2	5.143E+00	6.261E-03	7.488E-03	0.1275	0.1525
91	0.425	0.061	524.0	4.386E+00	5.338E-03	6.384E-03	0.1087	0.1300
92	0.425	0.178	525.8	5.379E+00	6.560E-03	7.848E-03	0.1336	0.1599
93	0.500	-0.107	526.7	4.370E+00	5.336E-03	6.385E-03	0.1087	0.1301
35	0.500	0.107	527.0	4.288E+00	5.238E-03	6.268E-03	0.1067	0.1277
94	0.500	0.178	532.5	5.346E+00	6.574E-03	7.878E-03	0.1339	0.1605
53	0.500	0.250	533.8	5.501E+00	6.776E-03	8.123E-03	0.1380	0.1654
95	0.600	-0.250	554.5	5.692E+00	7.195E-03	8.670E-03	0.1466	0.1766
39	0.600	0.107	565.0	6.923E+00	8.867E-03	1.071E-02	0.1806	0.2182

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:07 53
DATE RECORDED: 9-JUN-95
TIME RECORDED: 16:15:57
00001170

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
116	S1R25	ZERO	29-O	8.01	852.3	1345.67	30.00	9.97	39.97	-0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
99.6	0.087	3.905	3920	7.319E-05	8.014E-08	3.5800E+06	6.736E+06	4.909E-02	0.374

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	IW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	564.3	5.973E+00	7.644E-03	9.235E-03	0.1557	0.1881
98	0.660	-0.107	574.1	8.839E+00	1.146E-02	1.388E-02	0.2333	0.2826
96	0.660	0.107	582.0	9.362E+00	1.226E-02	1.488E-02	0.2497	0.3031
97	0.660	0.250	582.8	7.568E+00	9.921E-03	1.205E-02	0.2021	0.2453
60	0.660	0.400	593.8	7.736E+00	1.029E-02	1.253E-02	0.2096	0.2553
65	0.700	0.500	616.0	8.651E+00	1.186E-02	1.454E-02	0.2415	0.2961
99	0.750	0.178	593.4	1.155E+01	1.536E-02	1.870E-02	0.3128	0.3810
100	0.755	0.400	621.0	1.150E+01	1.587E-02	1.949E-02	0.3232	0.3969
101	0.800	-0.250	593.0	1.294E+01	1.719E-02	2.093E-02	0.3501	0.4264
45	0.800	0.107	591.7	1.249E+01	1.657E-02	2.017E-02	0.3375	0.4108
56	0.800	0.250	600.1	1.300E+01	1.744E-02	2.127E-02	0.3551	0.4333
66	0.800	0.500	637.6	1.296E+01	1.831E-02	2.260E-02	0.3729	0.4604
70	0.800	0.600	645.8	1.019E+01	1.456E-02	1.803E-02	0.2966	0.3673
75	0.800	0.750	649.1	9.882E+00	1.419E-02	1.758E-02	0.2890	0.3582
102	0.886	0.732	639.9	1.024E+01	1.450E-02	1.792E-02	0.2954	0.3650
103	0.900	-0.107	574.6	1.099E+01	1.426E-02	1.727E-02	0.2904	0.3518
57	0.900	0.250	591.7	1.182E+01	1.567E-02	1.908E-02	0.3192	0.3886

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:07:57
DATE RECORDED: 9-JUN-95
TIME RECORDED: 16:20:16
00001111/1

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
117	S1R27	ZERO	29-O	8.01	850.3	1346.67	30.00	4.93	34.93	-9.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
99.7	0.087	3.896	3921.	7.296E-05	8.021E-08	3.5673E+06	6.712E+06	4.904E-02	0.370

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	593.4	1.116E+01	1.482E-02	1.805E-02	0.3022	0.3680
6	0.060	0.000	576.5	8.211E+00	1.066E-02	1.292E-02	0.2174	0.2634
7	0.080	0.000	562.9	6.644E+00	8.476E-03	1.023E-02	0.1728	0.2087
8	0.100	0.000	555.7	6.317E+00	7.986E-03	9.625E-03	0.1628	0.1963
10	0.150	0.000	537.9	5.069E+00	6.268E-03	7.520E-03	0.1278	0.1533
16	0.192	0.000	523.9	4.543E+00	5.522E-03	6.603E-03	0.1126	0.1346
20	0.250	0.000	519.4	4.480E+00	5.416E-03	6.469E-03	0.1104	0.1319
23	0.300	0.000	516.5	4.323E+00	5.207E-03	6.215E-03	0.1062	0.1267
30	0.350	0.000	518.7	3.881E+00	4.687E-03	5.598E-03	0.0956	0.1141
31	0.400	0.000	517.8	3.504E+00	4.228E-03	5.048E-03	0.0862	0.1029
33	0.450	0.000	524.9	3.773E+00	4.591E-03	5.491E-03	0.0936	0.1120
34	0.500	0.000	529.3	4.144E+00	5.071E-03	6.071E-03	0.1034	0.1238
37	0.550	0.000	538.7	4.594E+00	5.686E-03	6.824E-03	0.1159	0.1391
38	0.600	0.000	557.4	5.989E+00	7.589E-03	9.150E-03	0.1547	0.1866
40	0.650	0.000	577.7	7.716E+00	1.003E-02	1.216E-02	0.2046	0.2480
41	0.700	0.000	589.8	9.421E+00	1.245E-02	1.514E-02	0.2538	0.3088
43	0.750	0.000	590.2	1.054E+01	1.394E-02	1.696E-02	0.2842	0.3457
46	0.850	0.000	592.5	1.149E+01	1.524E-02	1.855E-02	0.3107	0.3782
49	0.950	0.000	574.7	8.858E+00	1.148E-02	1.390E-02	0.2340	0.2834
86	0.125	0.055	551.3	6.312E+00	7.936E-03	9.554E-03	0.1618	0.1948
11	0.150	0.091	538.1	5.999E+00	7.419E-03	8.902E-03	0.1513	0.1815
17	0.192	0.107	530.6	5.416E+00	6.637E-03	7.949E-03	0.1353	0.1621
87	0.300	-0.106	517.9	4.954E+00	5.978E-03	7.138E-03	0.1219	0.1455
88	0.300	0.061	520.9	4.620E+00	5.595E-03	6.686E-03	0.1141	0.1363
89	0.300	0.122	524.0	5.371E+00	6.529E-03	7.807E-03	0.1331	0.1592
24	0.300	0.160	521.6	5.440E+00	6.593E-03	7.880E-03	0.1344	0.1607
25	0.300	0.221	522.2	5.563E+00	6.748E-03	8.065E-03	0.1376	0.1645
90	0.400	-0.107	519.8	4.069E+00	4.921E-03	5.879E-03	0.1003	0.1199
32	0.400	0.107	520.4	3.923E+00	4.748E-03	5.672E-03	0.0968	0.1157
52	0.400	0.250	523.4	4.720E+00	5.734E-03	6.855E-03	0.1169	0.1398
91	0.425	0.061	522.9	3.753E+00	4.556E-03	5.446E-03	0.0929	0.1110
92	0.425	0.178	524.0	4.603E+00	5.595E-03	6.690E-03	0.1141	0.1364
93	0.500	-0.107	526.2	3.726E+00	4.541E-03	5.433E-03	0.0926	0.1108
35	0.500	0.107	525.9	3.537E+00	4.310E-03	5.156E-03	0.0879	0.1051
94	0.500	0.178	531.7	4.480E+00	5.498E-03	6.586E-03	0.1121	0.1343
53	0.500	0.250	533.1	4.739E+00	5.825E-03	6.980E-03	0.1188	0.1423
95	0.600	-0.250	550.1	4.880E+00	6.127E-03	7.373E-03	0.1249	0.1503
39	0.600	0.107	556.1	5.502E+00	6.960E-03	8.389E-03	0.1419	0.1711

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:07:57
DATE RECORDED: 9-JUN-95
TIME RECORDED: 16:20:16
00001172

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
117	S1R27	ZERO	29-O	8.01	850.3	1346.67	30.00	4.93	34.93	-0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (I=1.882FT)	HREF (RN=0.0175FT)	TW/TT
99.7	0.087	3.896	3921.	7.296E-05	8.021E-08	3.5673E+06	6.712E+06	4.904E-02	0.370

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(T1)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	555.5	4.760E+00	6.016E-03	7.250E-03	0.1227	0.1478
98	0.660	-0.107	578.4	7.549E+00	9.825E-03	1.191E-02	0.2003	0.2429
96	0.660	0.107	583.1	7.839E+00	1.027E-02	1.247E-02	0.2093	0.2542
97	0.660	0.250	581.3	5.616E+00	7.338E-03	8.905E-03	0.1496	0.1816
60	0.660	0.400	592.3	6.148E+00	8.150E-03	9.922E-03	0.1662	0.2023
65	0.700	0.500	607.2	7.065E+00	9.554E-03	1.168E-02	0.1948	0.2382
99	0.750	0.178	594.0	9.795E+00	1.301E-02	1.585E-02	0.2654	0.3232
100	0.755	0.400	621.7	1.304E+01	1.799E-02	2.209E-02	0.3668	0.4505
101	0.800	-0.250	595.4	1.170E+01	1.558E-02	1.898E-02	0.3176	0.3870
45	0.800	0.107	592.6	1.104E+01	1.464E-02	1.783E-02	0.2986	0.3635
56	0.800	0.250	598.6	1.147E+01	1.533E-02	1.869E-02	0.3126	0.3812
66	0.800	0.500	619.6	1.002E+01	1.378E-02	1.691E-02	0.2809	0.3448
70	0.800	0.600	621.6	6.926E+00	9.552E-03	1.173E-02	0.1948	0.2392
75	0.800	0.750	620.1	5.585E+00	7.687E-03	9.435E-03	0.1567	0.1924
102	0.886	0.732	612.1	8.297E+00	1.129E-02	1.383E-02	0.2303	0.2820
103	0.900	-0.107	575.8	9.734E+00	1.263E-02	1.530E-02	0.2575	0.3120
57	0.900	0.250	589.6	1.075E+01	1.420E-02	1.728E-02	0.2896	0.3523

RUN 117

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:08:08
DATE RECORDED: 9-JUN-95
TIME RECORDED: 16:32:21
000011173

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PRLBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
118	S1R29	ZERO	29-0	8.00	704.4	1339.67	30.00	9.97	39.97	-0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
99.3	0.072	3.235	3909.	6.099E-05	7.991E-08	2.9830E+06	5.613E+06	4.465E-02	0.370

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	569.2	1.065E+01	1.383E-02	1.674E-02	0.3097	0.3749
6	0.060	0.000	554.0	7.781E+00	9.903E-03	1.194E-02	0.2218	0.2674
7	0.080	0.000	544.5	6.519E+00	8.198E-03	9.859E-03	0.1836	0.2208
8	0.100	0.000	540.8	6.096E+00	7.631E-03	9.169E-03	0.1709	0.2053
10	0.150	0.000	529.8	4.858E+00	5.998E-03	7.187E-03	0.1343	0.1610
16	0.192	0.000	520.8	4.326E+00	5.282E-03	6.315E-03	0.1183	0.1414
20	0.250	0.000	518.4	4.235E+00	5.156E-03	6.161E-03	0.1155	0.1380
23	0.300	0.000	515.6	4.138E+00	5.022E-03	5.997E-03	0.1125	0.1343
30	0.350	0.000	516.4	3.794E+00	4.608E-03	5.504E-03	0.1032	0.1233
31	0.400	0.000	514.4	3.418E+00	4.141E-03	4.944E-03	0.0927	0.1107
33	0.450	0.000	520.6	3.496E+00	4.269E-03	5.103E-03	0.0956	0.1143
34	0.500	0.000	524.7	3.639E+00	4.465E-03	5.344E-03	0.1000	0.1197
37	0.550	0.000	532.5	3.647E+00	4.519E-03	5.418E-03	0.1012	0.1213
38	0.600	0.000	550.1	4.323E+00	5.475E-03	6.594E-03	0.1226	0.1477
40	0.650	0.000	558.5	5.077E+00	6.499E-03	7.845E-03	0.1456	0.1757
41	0.700	0.000	564.0	6.188E+00	7.978E-03	9.644E-03	0.1787	0.2160
43	0.750	0.000	565.6	7.311E+00	9.444E-03	1.142E-02	0.2115	0.2558
46	0.850	0.000	575.1	9.424E+00	1.233E-02	1.494E-02	0.2760	0.3347
49	0.950	0.000	527.5	8.183E+00	1.007E-02	1.206E-02	0.2256	0.2702
86	0.125	0.055	540.0	6.083E+00	7.607E-03	9.138E-03	0.1704	0.2046
11	0.150	0.091	530.1	5.578E+00	6.890E-03	8.257E-03	0.1543	0.1849
17	0.192	0.107	527.0	5.125E+00	6.307E-03	7.552E-03	0.1412	0.1691
87	0.300	-0.106	516.9	4.740E+00	5.761E-03	6.881E-03	0.1290	0.1541
88	0.300	0.061	519.3	4.373E+00	5.331E-03	6.372E-03	0.1194	0.1427
89	0.300	0.122	522.1	5.106E+00	6.245E-03	7.469E-03	0.1399	0.1673
24	0.300	0.160	521.0	5.387E+00	6.580E-03	7.868E-03	0.1474	0.1762
25	0.300	0.221	521.1	5.327E+00	6.509E-03	7.782E-03	0.1458	0.1743
90	0.400	-0.107	516.7	3.827E+00	4.651E-03	5.555E-03	0.1042	0.1244
32	0.400	0.107	517.8	3.796E+00	4.618E-03	5.518E-03	0.1034	0.1236
52	0.400	0.250	522.4	4.457E+00	5.454E-03	6.524E-03	0.1222	0.1461
91	0.425	0.061	518.9	3.606E+00	4.394E-03	5.251E-03	0.0984	0.1176
92	0.425	0.178	521.7	4.431E+00	5.416E-03	6.477E-03	0.1213	0.1451
93	0.500	-0.107	523.1	3.360E+00	4.114E-03	4.922E-03	0.0921	0.1102
35	0.500	0.107	521.2	3.211E+00	3.924E-03	4.692E-03	0.0879	0.1051
94	0.500	0.178	527.3	4.180E+00	5.145E-03	6.161E-03	0.1152	0.1380
53	0.500	0.250	529.4	4.407E+00	5.439E-03	6.516E-03	0.1218	0.1459
95	0.600	-0.250	546.8	3.840E+00	4.843E-03	5.827E-03	0.1085	0.1305
39	0.600	0.107	548.7	4.198E+00	5.307E-03	6.389E-03	0.1189	0.1431

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:08:08
DATE RECORDED: 9-JUN-95
TIME RECORDED: 16:32:21
000011174

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
118	S1R29	ZERO	29-0	8.00	704.4	1339.67	30.00	9.97	39.97	-0.06

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
99.3	0.072	3.235	3909.	6.099E-05	7.991E-08	2.9830E+06	5.613E+06	4.465E-02	0.370

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	549.3	4.032E+00	5.101E-03	6.142E-03	0.1142	0.1375
98	0.660	-0.107	558.2	5.078E+00	6.498E-03	7.842E-03	0.1455	0.1756
96	0.660	0.107	561.1	5.618E+00	7.216E-03	8.715E-03	0.1616	0.1952
97	0.660	0.250	560.9	4.314E+00	5.539E-03	6.690E-03	0.1241	0.1498
60	0.660	0.400	566.8	4.967E+00	6.426E-03	7.774E-03	0.1439	0.1741
65	0.700	0.500	576.0	5.668E+00	7.422E-03	9.001E-03	0.1662	0.2016
99	0.750	0.178	567.1	6.845E+00	8.860E-03	1.072E-02	0.1984	0.2400
100	0.755	0.400	575.3	6.589E+00	8.619E-03	1.045E-02	0.1930	0.2340
101	0.800	-0.250	572.4	8.369E+00	1.091E-02	1.321E-02	0.2443	0.2959
45	0.800	0.107	568.1	8.203E+00	1.063E-02	1.286E-02	0.2381	0.2881
56	0.800	0.250	572.0	8.408E+00	1.095E-02	1.327E-02	0.2453	0.2971
66	0.800	0.500	581.6	7.171E+00	9.460E-03	1.149E-02	0.2119	0.2573
70	0.800	0.600	584.6	6.056E+00	8.021E-03	9.751E-03	0.1796	0.2184
75	0.800	0.750	584.6	5.220E+00	6.914E-03	8.405E-03	0.1548	0.1882
102	0.886	0.732	577.1	6.340E+00	8.314E-03	1.009E-02	0.1862	0.2259
103	0.900	-0.107	564.7	8.480E+00	1.094E-02	1.323E-02	0.2451	0.2963
57	0.900	0.250	572.5	9.156E+00	1.193E-02	1.446E-02	0.2673	0.3238

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:08:11
DATE RECORDED: 9-JUN-95
TIME RECORDED: 16:35:49
00001117S

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
119	S1R31	ZERO	29-0	8.00	703.1	1335.67	30.00	4.93	34.93	-0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
99.0	0.072	3.230	3902.	6.108E-05	7.965E-08	2.9926E+06	5.631E+06	4.459E-02	0.377

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	582.5	1.020E+01	1.355E-02	1.647E-02	0.3038	0.3692
6	0.060	0.000	567.2	7.326E+00	9.533E-03	1.154E-02	0.2138	0.2587
7	0.080	0.000	555.7	6.051E+00	7.758E-03	9.361E-03	0.1740	0.2099
8	0.100	0.000	550.2	5.653E+00	7.196E-03	8.671E-03	0.1614	0.1944
10	0.150	0.000	536.0	4.533E+00	5.668E-03	6.805E-03	0.1271	0.1526
16	0.192	0.000	524.9	4.004E+00	4.939E-03	5.913E-03	0.1108	0.1326
20	0.250	0.000	523.0	3.928E+00	4.834E-03	5.784E-03	0.1084	0.1297
23	0.300	0.000	520.8	3.761E+00	4.616E-03	5.520E-03	0.1035	0.1238
30	0.350	0.000	522.8	3.391E+00	4.172E-03	4.992E-03	0.0935	0.1119
31	0.400	0.000	521.1	3.037E+00	3.729E-03	4.461E-03	0.0836	0.1000
33	0.450	0.000	527.4	3.243E+00	4.012E-03	4.807E-03	0.0900	0.1078
34	0.500	0.000	532.1	3.406E+00	4.238E-03	5.083E-03	0.0950	0.1140
37	0.550	0.000	539.0	3.337E+00	4.189E-03	5.032E-03	0.0939	0.1129
38	0.600	0.000	552.3	4.075E+00	5.201E-03	6.270E-03	0.1166	0.1406
40	0.650	0.000	566.9	4.899E+00	6.372E-03	7.712E-03	0.1429	0.1729
41	0.700	0.000	578.0	5.925E+00	7.820E-03	9.493E-03	0.1754	0.2129
43	0.750	0.000	579.9	7.071E+00	9.356E-03	1.136E-02	0.2098	0.2549
46	0.850	0.000	584.8	9.054E+00	1.206E-02	1.467E-02	0.2704	0.3289
49	0.950	0.000	571.4	7.530E+00	9.852E-03	1.194E-02	0.2209	0.2677
86	0.125	0.055	547.4	5.649E+00	7.166E-03	8.628E-03	0.1607	0.1935
11	0.150	0.091	536.3	5.308E+00	6.641E-03	7.973E-03	0.1489	0.1788
17	0.192	0.107	531.3	4.868E+00	6.053E-03	7.258E-03	0.1357	0.1628
87	0.300	-0.106	521.9	4.429E+00	5.442E-03	6.511E-03	0.1220	0.1460
88	0.300	0.061	525.0	4.016E+00	4.954E-03	5.932E-03	0.1111	0.1330
89	0.300	0.122	527.7	4.833E+00	5.981E-03	7.166E-03	0.1341	0.1607
24	0.300	0.160	525.3	4.879E+00	6.021E-03	7.210E-03	0.1350	0.1617
25	0.300	0.221	526.2	4.982E+00	6.154E-03	7.370E-03	0.1380	0.1653
90	0.400	-0.107	523.4	3.630E+00	4.469E-03	5.349E-03	0.1002	0.1199
32	0.400	0.107	524.1	3.402E+00	4.192E-03	5.018E-03	0.0940	0.1125
52	0.400	0.250	528.3	4.269E+00	5.287E-03	6.335E-03	0.1186	0.1421
91	0.425	0.061	526.0	3.298E+00	4.074E-03	4.878E-03	0.0913	0.1094
92	0.425	0.178	527.3	4.098E+00	5.069E-03	6.073E-03	0.1137	0.1362
93	0.500	-0.107	530.3	3.148E+00	3.908E-03	4.685E-03	0.0876	0.1051
35	0.500	0.107	528.5	2.930E+00	3.631E-03	4.350E-03	0.0814	0.0976
94	0.500	0.178	533.7	3.842E+00	4.791E-03	5.748E-03	0.1074	0.1289
53	0.500	0.250	535.7	4.259E+00	5.324E-03	6.391E-03	0.1194	0.1433
95	0.600	-0.250	547.4	3.576E+00	4.537E-03	5.463E-03	0.1017	0.1225
39	0.600	0.107	550.6	3.890E+00	4.954E-03	5.970E-03	0.1111	0.1339

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL 95
TIME COMPUTED: 06:08.11
DATE RECORDED: 9-JUN-95
TIME RECORDED: 16:35.49
000011176

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
119	S1R31	ZERO	29-0	8.00	703.1	1335.67	30.00	4.93	34.93	-0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
99.0	0.072	3.230	3902.	6.108E-05	7.965E-08	2.9926E+06	5.631E+06	4.459E-02	0.377

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	549.6	3.635E+00	4.625E-03	5.571E-03	0.1037	0.1249
98	0.660	-0.107	567.7	4.826E+00	6.284E-03	7.607E-03	0.1409	0.1706
96	0.660	0.107	570.2	5.247E+00	6.855E-03	8.304E-03	0.1537	0.1862
97	0.660	0.250	568.2	3.814E+00	4.969E-03	6.016E-03	0.1114	0.1349
60	0.660	0.400	579.8	4.761E+00	6.298E-03	7.650E-03	0.1412	0.1715
65	0.700	0.500	594.4	5.534E+00	7.465E-03	9.106E-03	0.1674	0.2042
99	0.750	0.178	580.2	6.390E+00	8.458E-03	1.027E-02	0.1897	0.2304
100	0.755	0.400	593.7	6.625E+00	8.929E-03	1.089E-02	0.2002	0.2442
101	0.800	-0.250	583.1	7.883E+00	1.048E-02	1.274E-02	0.2349	0.2856
45	0.800	0.107	579.9	7.827E+00	1.036E-02	1.258E-02	0.2322	0.2821
56	0.800	0.250	583.2	7.966E+00	1.059E-02	1.287E-02	0.2374	0.2886
66	0.800	0.500	595.7	5.607E+00	7.577E-03	9.246E-03	0.1699	0.2073
70	0.800	0.600	600.6	5.140E+00	6.993E-03	8.545E-03	0.1568	0.1916
75	0.800	0.750	601.8	4.375E+00	5.962E-03	7.289E-03	0.1337	0.1635
102	0.886	0.732	587.7	5.031E+00	6.727E-03	8.190E-03	0.1509	0.1836
103	0.900	-0.107	573.2	7.992E+00	1.048E-02	1.271E-02	0.2350	0.2849
57	0.900	0.250	581.5	8.741E+00	1.159E-02	1.408E-02	0.2599	0.3158

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL 95
TIME COMPUTED: 06 08 15
DATE RECORDED: 9-JUN 95
TIME RECORDED: 16:47 49
000011177

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
120	S1R33	ZERO	29-0	7.99	576.1	1319.67	30.00	9.98	39.98	-0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.9	0.059	2.655	3876.	5.091E-05	7.879E-08	2.5044E+06	4.712E+06	4.035E-02	0.384

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	571.7	1.007E+01	1.346E-02	1.634E-02	0.3336	0.4050
6	0.060	0.000	557.5	7.303E+00	9.583E-03	1.159E-02	0.2375	0.2872
7	0.080	0.000	548.5	6.137E+00	7.957E-03	9.600E-03	0.1972	0.2379
8	0.100	0.000	545.5	5.677E+00	7.334E-03	8.841E-03	0.1817	0.2191
10	0.150	0.000	536.8	4.521E+00	5.775E-03	6.946E-03	0.1431	0.1721
16	0.192	0.000	529.0	4.048E+00	5.120E-03	6.145E-03	0.1269	0.1523
20	0.250	0.000	528.2	3.963E+00	5.007E-03	6.009E-03	0.1241	0.1489
23	0.300	0.000	525.0	3.793E+00	4.774E-03	5.724E-03	0.1183	0.1419
30	0.350	0.000	526.2	3.502E+00	4.414E-03	5.295E-03	0.1094	0.1312
31	0.400	0.000	523.3	3.235E+00	4.062E-03	4.869E-03	0.1007	0.1207
33	0.450	0.000	528.8	3.183E+00	4.025E-03	4.831E-03	0.0997	0.1197
34	0.500	0.000	532.3	3.186E+00	4.047E-03	4.862E-03	0.1003	0.1205
37	0.550	0.000	537.2	3.097E+00	3.958E-03	4.761E-03	0.0981	0.1180
38	0.600	0.000	551.7	3.342E+00	4.351E-03	5.254E-03	0.1078	0.1302
40	0.650	0.000	560.2	3.544E+00	4.667E-03	5.648E-03	0.1156	0.1400
41	0.700	0.000	563.7	4.033E+00	5.305E-03	6.463E-03	0.1322	0.1602
43	0.750	0.000	564.4	4.620E+00	6.117E-03	7.413E-03	0.1516	0.1837
46	0.850	0.000	573.6	6.470E+00	8.672E-03	1.054E-02	0.2149	0.2611
49	0.950	0.000	565.7	6.427E+00	8.524E-03	1.033E-02	0.2112	0.2561
86	0.125	0.055	545.8	5.677E+00	7.336E-03	8.844E-03	0.1818	0.2192
11	0.150	0.091	537.0	5.233E+00	6.686E-03	8.042E-03	0.1657	0.1993
17	0.192	0.107	535.4	4.781E+00	6.095E-03	7.329E-03	0.1511	0.1816
87	0.300	-0.106	526.5	4.418E+00	5.570E-03	6.682E-03	0.1380	0.1656
88	0.300	0.061	529.1	4.052E+00	5.125E-03	6.152E-03	0.1270	0.1525
89	0.300	0.122	531.5	4.746E+00	6.022E-03	7.234E-03	0.1492	0.1793
24	0.300	0.160	529.9	5.040E+00	6.382E-03	7.662E-03	0.1581	0.1899
25	0.300	0.221	530.2	4.957E+00	6.279E-03	7.539E-03	0.1556	0.1868
90	0.400	-0.107	526.4	3.608E+00	4.548E-03	5.456E-03	0.1127	0.1352
32	0.400	0.107	526.5	3.481E+00	4.389E-03	5.265E-03	0.1088	0.1305
52	0.400	0.250	531.3	4.227E+00	5.361E-03	6.439E-03	0.1329	0.1596
91	0.425	0.061	527.6	3.337E+00	4.213E-03	5.056E-03	0.1044	0.1253
92	0.425	0.178	529.4	4.086E+00	5.171E-03	6.208E-03	0.1281	0.1538
93	0.500	-0.107	531.6	2.978E+00	3.778E-03	4.538E-03	0.0936	0.1125
35	0.500	0.107	528.8	2.854E+00	3.609E-03	4.332E-03	0.0894	0.1074
94	0.500	0.178	534.6	3.718E+00	4.736E-03	5.693E-03	0.1174	0.1411
53	0.500	0.250	536.8	4.031E+00	5.150E-03	6.194E-03	0.1276	0.1535
95	0.600	-0.250	550.1	3.351E+00	4.355E-03	5.256E-03	0.1079	0.1302
39	0.600	0.107	550.3	3.212E+00	4.175E-03	5.040E-03	0.1035	0.1249

RUN 120

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 19-JUL 95
TIME COMPUTED: 06.08 15
DATE RECORDED: 9-JUN-95
TIME RECORDED: 16:47 49
00001117B

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
120	S1R33	ZERO	29-0	7.99	576.1	1319.67	30.00	9.98	39.98	0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.9	0.059	2.655	3876	5.091E-05	7.879E-08	2.5044E+06	4.712E+06	4.035E-02	0.384

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	550.9	3.313E+00	4.309E-03	5.203E-03	0.1068	0.1289
98	0.660	-0.107	560.0	3.559E+00	4.685E-03	5.669E-03	0.1161	0.1405
96	0.660	0.107	561.9	4.062E+00	5.360E-03	6.491E-03	0.1328	0.1608
97	0.660	0.250	561.9	3.113E+00	4.108E-03	4.975E-03	0.1018	0.1233
60	0.660	0.400	568.9	4.135E+00	5.507E-03	6.681E-03	0.1365	0.1656
65	0.700	0.500	577.7	4.740E+00	6.388E-03	7.770E-03	0.1583	0.1925
99	0.750	0.178	565.9	4.212E+00	5.588E-03	6.774E-03	0.1385	0.1679
100	0.755	0.400	574.6	4.270E+00	5.730E-03	6.964E-03	0.1420	0.1726
101	0.800	-0.250	571.1	5.361E+00	7.161E-03	8.694E-03	0.1775	0.2154
45	0.800	0.107	567.1	5.148E+00	6.841E-03	8.296E-03	0.1695	0.2056
56	0.800	0.250	570.4	5.482E+00	7.316E-03	8.881E-03	0.1813	0.2201
66	0.800	0.500	579.4	4.670E+00	6.309E-03	7.677E-03	0.1563	0.1903
70	0.800	0.600	583.9	4.527E+00	6.152E-03	7.496E-03	0.1525	0.1858
75	0.800	0.750	585.6	4.297E+00	5.854E-03	7.137E-03	0.1451	0.1769
102	0.886	0.732	577.7	4.872E+00	6.566E-03	7.987E-03	0.1627	0.1979
103	0.900	-0.107	566.6	6.322E+00	8.394E-03	1.018E-02	0.2080	0.2522
57	0.900	0.250	574.3	6.960E+00	9.337E-03	1.135E-02	0.2314	0.2812

RUN 120

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06 08 25
DATE RECORDED: 9-JUN 95
TIME RECORDED: 16:50 14
00001111/9

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
121	S1R35	ZERO	29-0	7.99	574.4	1318.67	30.00	4.95	34.95	-0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.8	0.059	2.648	3874.	5.081E-05	7.873E-08	2.5002E+06	4.704E+06	4.029E-02	0.386

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	579.9	8.340E+00	1.129E-02	1.374E-02	0.2802	0.3411
6	0.060	0.000	565.6	6.032E+00	8.010E-03	9.710E-03	0.1988	0.2410
7	0.080	0.000	554.7	4.930E+00	6.453E-03	7.800E-03	0.1602	0.1936
8	0.100	0.000	549.1	4.621E+00	6.004E-03	7.246E-03	0.1490	0.1799
10	0.150	0.000	536.2	3.666E+00	4.685E-03	5.635E-03	0.1163	0.1399
16	0.192	0.000	526.1	3.254E+00	4.105E-03	4.925E-03	0.1019	0.1222
20	0.250	0.000	522.9	3.244E+00	4.076E-03	4.886E-03	0.1012	0.1213
23	0.300	0.000	521.6	3.105E+00	3.895E-03	4.667E-03	0.0967	0.1158
30	0.350	0.000	525.6	2.768E+00	3.490E-03	4.186E-03	0.0866	0.1039
31	0.400	0.000	524.6	2.515E+00	3.168E-03	3.798E-03	0.0786	0.0943
33	0.450	0.000	530.4	2.549E+00	3.234E-03	3.884E-03	0.0803	0.0964
34	0.500	0.000	533.3	2.645E+00	3.368E-03	4.048E-03	0.0836	0.1005
37	0.550	0.000	538.4	2.542E+00	3.258E-03	3.921E-03	0.0809	0.0973
38	0.600	0.000	549.4	2.717E+00	3.532E-03	4.263E-03	0.0877	0.1058
40	0.650	0.000	559.7	2.994E+00	3.944E-03	4.774E-03	0.0979	0.1185
41	0.700	0.000	570.9	3.374E+00	4.512E-03	5.478E-03	0.1120	0.1360
43	0.750	0.000	571.4	3.948E+00	5.284E-03	6.416E-03	0.1311	0.1592
46	0.850	0.000	578.4	5.491E+00	7.418E-03	9.026E-03	0.1841	0.2240
49	0.950	0.000	533.8	5.153E+00	6.566E-03	7.892E-03	0.1630	0.1959
86	0.125	0.055	545.8	4.631E+00	5.991E-03	7.224E-03	0.1487	0.1793
11	0.150	0.091	534.5	4.366E+00	5.568E-03	6.694E-03	0.1382	0.1661
17	0.192	0.107	530.9	4.067E+00	5.163E-03	6.201E-03	0.1281	0.1539
87	0.300	-0.106	523.7	3.577E+00	4.500E-03	5.395E-03	0.1117	0.1339
88	0.300	0.061	525.5	3.284E+00	4.140E-03	4.966E-03	0.1028	0.1233
89	0.300	0.122	527.3	3.912E+00	4.943E-03	5.932E-03	0.1227	0.1472
24	0.300	0.160	525.1	3.995E+00	5.034E-03	6.037E-03	0.1249	0.1498
25	0.300	0.221	526.5	4.139E+00	5.224E-03	6.267E-03	0.1297	0.1556
90	0.400	-0.107	527.0	2.934E+00	3.706E-03	4.446E-03	0.0920	0.1104
32	0.400	0.107	526.8	2.739E+00	3.459E-03	4.150E-03	0.0858	0.1030
52	0.400	0.250	530.0	3.550E+00	4.501E-03	5.405E-03	0.1117	0.1342
91	0.425	0.061	528.4	2.600E+00	3.289E-03	3.948E-03	0.0816	0.0980
92	0.425	0.178	529.1	3.324E+00	4.210E-03	5.055E-03	0.1045	0.1255
93	0.500	-0.107	533.2	2.453E+00	3.123E-03	3.753E-03	0.0775	0.0932
35	0.500	0.107	531.3	2.326E+00	2.955E-03	3.549E-03	0.0733	0.0881
94	0.500	0.178	535.7	3.140E+00	4.011E-03	4.823E-03	0.0995	0.1197
53	0.500	0.250	537.5	3.385E+00	4.333E-03	5.213E-03	0.1075	0.1294
95	0.600	-0.250	547.9	2.704E+00	3.508E-03	4.232E-03	0.0871	0.1050
39	0.600	0.107	548.5	2.664E+00	3.459E-03	4.174E-03	0.0859	0.1036

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:08:25
DATE RECORDED: 9-JUN-95
TIME RECORDED: 16:50:14
00001180

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
121	S1R35	ZERO	29-0	7.99	574.4	1318.67	30.00	4.95	34.95	-0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.8	0.059	2.648	3874.	5.081E-05	7.873E-08	2.5002E+06	4.704E+06	4.029E-02	0.386

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	549.0	2.725E+00	3.541E-03	4.273E-03	0.0879	0.1061
98	0.660	-0.107	562.0	2.949E+00	3.897E-03	4.720E-03	0.0967	0.1171
96	0.660	0.107	563.5	3.377E+00	4.472E-03	5.418E-03	0.1110	0.1345
97	0.660	0.250	563.6	2.541E+00	3.365E-03	4.077E-03	0.0835	0.1012
60	0.660	0.400	573.3	3.574E+00	4.795E-03	5.826E-03	0.1190	0.1446
65	0.700	0.500	587.1	4.233E+00	5.786E-03	7.058E-03	0.1436	0.1752
99	0.750	0.178	573.5	3.584E+00	4.810E-03	5.845E-03	0.1194	0.1451
100	0.755	0.400	583.4	3.532E+00	4.804E-03	5.854E-03	0.1192	0.1453
101	0.800	-0.250	574.9	4.336E+00	5.829E-03	7.085E-03	0.1447	0.1759
45	0.800	0.107	572.8	4.378E+00	5.869E-03	7.130E-03	0.1457	0.1770
56	0.800	0.250	576.2	4.576E+00	6.164E-03	7.495E-03	0.1530	0.1860
66	0.800	0.500	588.6	3.384E+00	4.634E-03	5.656E-03	0.1150	0.1404
70	0.800	0.600	595.7	3.770E+00	5.214E-03	6.377E-03	0.1294	0.1583
75	0.800	0.750	595.1	3.369E+00	4.656E-03	5.693E-03	0.1156	0.1413
102	0.886	0.732	580.7	3.733E+00	5.059E-03	6.160E-03	0.1256	0.1529
103	0.900	-0.107	569.7	5.183E+00	6.919E-03	8.398E-03	0.1717	0.2084
57	0.900	0.250	576.0	5.693E+00	7.665E-03	9.319E-03	0.1902	0.2313

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:08.29
DATE RECORDED: 9-JUN-95
TIME RECORDED: 17:01.05
000011181

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
122	S1R37	ZERO	29-O	7.98	461.7	1323.67	30.00	9.97	39.97	-0.06

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
99.5	0.048	2.138	3880	4.088E-05	7.925E-08	2.0017E+06	3.767E+06	3.622E-02	0.385

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	569.6	9.051E+00	1.200E-02	1.456E-02	0.3314	0.4019
6	0.060	0.000	556.5	6.625E+00	8.636E-03	1.044E-02	0.2384	0.2881
7	0.080	0.000	548.0	5.532E+00	7.132E-03	8.599E-03	0.1969	0.2374
8	0.100	0.000	545.1	5.160E+00	6.628E-03	7.985E-03	0.1830	0.2204
10	0.150	0.000	536.9	4.107E+00	5.220E-03	6.276E-03	0.1441	0.1733
16	0.192	0.000	529.4	3.665E+00	4.614E-03	5.537E-03	0.1274	0.1529
20	0.250	0.000	528.6	3.601E+00	4.528E-03	5.433E-03	0.1250	0.1500
23	0.300	0.000	525.4	3.452E+00	4.325E-03	5.184E-03	0.1194	0.1431
30	0.350	0.000	527.3	3.218E+00	4.041E-03	4.846E-03	0.1115	0.1338
31	0.400	0.000	525.1	2.844E+00	3.561E-03	4.268E-03	0.0983	0.1178
33	0.450	0.000	530.0	2.852E+00	3.594E-03	4.313E-03	0.0992	0.1191
34	0.500	0.000	534.1	2.845E+00	3.603E-03	4.329E-03	0.0995	0.1195
37	0.550	0.000	537.5	2.643E+00	3.362E-03	4.042E-03	0.0928	0.1116
38	0.600	0.000	549.7	2.757E+00	3.563E-03	4.298E-03	0.0984	0.1186
40	0.650	0.000	558.5	2.687E+00	3.511E-03	4.246E-03	0.0969	0.1172
41	0.700	0.000	561.5	2.737E+00	3.591E-03	4.346E-03	0.0991	0.1200
43	0.750	0.000	561.3	2.898E+00	3.802E-03	4.600E-03	0.1049	0.1270
46	0.850	0.000	568.4	3.511E+00	4.649E-03	5.637E-03	0.1283	0.1556
49	0.950	0.000	563.4	3.952E+00	5.198E-03	6.293E-03	0.1435	0.1737
86	0.125	0.055	545.6	5.109E+00	6.567E-03	7.913E-03	0.1813	0.2184
11	0.150	0.091	537.0	4.757E+00	6.048E-03	7.271E-03	0.1670	0.2007
17	0.192	0.107	536.0	4.315E+00	5.478E-03	6.585E-03	0.1512	0.1818
87	0.300	-0.106	527.0	3.952E+00	4.960E-03	5.949E-03	0.1369	0.1642
88	0.300	0.061	529.5	3.631E+00	4.572E-03	5.486E-03	0.1262	0.1515
89	0.300	0.122	531.5	4.279E+00	5.402E-03	6.486E-03	0.1491	0.1791
24	0.300	0.160	530.0	4.484E+00	5.650E-03	6.781E-03	0.1560	0.1872
25	0.300	0.221	530.3	4.440E+00	5.597E-03	6.718E-03	0.1545	0.1855
90	0.400	-0.107	528.0	3.228E+00	4.057E-03	4.866E-03	0.1120	0.1343
32	0.400	0.107	527.6	3.194E+00	4.013E-03	4.813E-03	0.1108	0.1329
52	0.400	0.250	532.6	3.741E+00	4.729E-03	5.679E-03	0.1305	0.1568
91	0.425	0.061	529.2	2.942E+00	3.703E-03	4.443E-03	0.1022	0.1226
92	0.425	0.178	530.8	3.678E+00	4.639E-03	5.569E-03	0.1281	0.1537
93	0.500	-0.107	534.0	2.644E+00	3.348E-03	4.022E-03	0.0924	0.1110
35	0.500	0.107	531.4	2.563E+00	3.235E-03	3.884E-03	0.0893	0.1072
94	0.500	0.178	536.2	3.380E+00	4.292E-03	5.159E-03	0.1185	0.1424
53	0.500	0.250	538.5	3.606E+00	4.592E-03	5.523E-03	0.1268	0.1525
95	0.600	-0.250	549.8	2.928E+00	3.784E-03	4.565E-03	0.1045	0.1260
39	0.600	0.107	548.4	2.747E+00	3.543E-03	4.272E-03	0.0978	0.1179

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:08:29
DATE RECORDED: 9-JUN-95
TIME RECORDED: 17:01:05
00001118?

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
122	S1R37	ZERO	.29-0	7.98	461.7	1323.67	30.00	9.97	39.97	-0.06

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.5	0.048	2.138	3880.	4.088E-05	7.925E-08	2.0017E+06	3.767E+06	3.622E-02	0.385

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	549.8	2.941E+00	3.801E-03	4.585E-03	0.1049	0.1266
98	0.660	-0.107	559.1	2.769E+00	3.622E-03	4.380E-03	0.1000	0.1209
96	0.660	0.107	560.4	3.146E+00	4.121E-03	4.985E-03	0.1138	0.1376
97	0.660	0.250	560.5	2.520E+00	3.303E-03	3.996E-03	0.0912	0.1103
60	0.660	0.400	567.0	3.585E+00	4.738E-03	5.742E-03	0.1308	0.1585
65	0.700	0.500	573.0	4.166E+00	5.550E-03	6.739E-03	0.1532	0.1860
99	0.750	0.178	563.1	2.676E+00	3.519E-03	4.260E-03	0.0971	0.1176
100	0.755	0.400	569.4	2.977E+00	3.948E-03	4.788E-03	0.1090	0.1322
101	0.800	-0.250	567.3	3.289E+00	4.348E-03	5.270E-03	0.1200	0.1455
45	0.800	0.107	563.7	2.961E+00	3.896E-03	4.718E-03	0.1076	0.1302
56	0.800	0.250	565.5	3.296E+00	4.347E-03	5.266E-03	0.1200	0.1454
66	0.800	0.500	573.6	3.363E+00	4.484E-03	5.444E-03	0.1238	0.1503
70	0.800	0.600	578.2	3.713E+00	4.982E-03	6.057E-03	0.1375	0.1672
75	0.800	0.750	579.1	3.783E+00	5.081E-03	6.180E-03	0.1403	0.1706
102	0.886	0.732	572.4	3.949E+00	5.256E-03	6.380E-03	0.1451	0.1761
103	0.900	-0.107	562.9	3.723E+00	4.894E-03	5.925E-03	0.1351	0.1636
57	0.900	0.250	569.9	4.408E+00	5.848E-03	7.094E-03	0.1615	0.1958

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:08:39
DATE RECORDED: 9-JUN-95
TIME RECORDED: 17:03:39
00001183

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
123	S1R39	ZERO	29-O	7.98	458.8	1322.67	30.00	4.93	34.93	-0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.4	0.048	2.124	.3879	4.067E-05	7.920E-08	1.9917E+06	3.748E+06	3.611E-02	0.385

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	575.4	7.414E+00	9.921E-03	1.206E-02	0.2748	0.3339
6	0.060	0.000	562.6	5.361E+00	7.054E-03	8.540E-03	0.1954	0.2365
7	0.080	0.000	552.4	4.370E+00	5.673E-03	6.849E-03	0.1571	0.1897
8	0.100	0.000	547.0	4.095E+00	5.280E-03	6.365E-03	0.1462	0.1763
10	0.150	0.000	534.8	3.244E+00	4.117E-03	4.948E-03	0.1140	0.1370
16	0.192	0.000	524.6	2.906E+00	3.641E-03	4.364E-03	0.1008	0.1209
20	0.250	0.000	521.5	2.899E+00	3.619E-03	4.334E-03	0.1002	0.1200
23	0.300	0.000	520.0	2.658E+00	3.311E-03	3.964E-03	0.0917	0.1098
30	0.350	0.000	524.3	2.348E+00	2.941E-03	3.525E-03	0.0814	0.0976
31	0.400	0.000	524.1	2.196E+00	2.749E-03	3.295E-03	0.0761	0.0913
33	0.450	0.000	530.1	2.197E+00	2.772E-03	3.328E-03	0.0768	0.0922
34	0.500	0.000	532.8	2.216E+00	2.806E-03	3.371E-03	0.0777	0.0934
37	0.550	0.000	538.0	2.044E+00	2.605E-03	3.133E-03	0.0721	0.0868
38	0.600	0.000	546.7	2.073E+00	2.671E-03	3.220E-03	0.0740	0.0892
40	0.650	0.000	554.8	2.094E+00	2.727E-03	3.295E-03	0.0755	0.0912
41	0.700	0.000	564.5	2.187E+00	2.885E-03	3.495E-03	0.0799	0.0968
43	0.750	0.000	564.4	2.318E+00	3.057E-03	3.703E-03	0.0847	0.1025
46	0.850	0.000	569.1	2.811E+00	3.730E-03	4.525E-03	0.1033	0.1253
49	0.950	0.000	527.4	2.998E+00	3.770E-03	4.522E-03	0.1044	0.1252
86	0.125	0.055	543.8	4.087E+00	5.247E-03	6.321E-03	0.1453	0.1751
11	0.150	0.091	533.2	3.911E+00	4.953E-03	5.950E-03	0.1372	0.1648
17	0.192	0.107	529.4	3.482E+00	4.390E-03	5.268E-03	0.1216	0.1459
87	0.300	-0.106	522.7	3.181E+00	3.976E-03	4.764E-03	0.1101	0.1319
88	0.300	0.061	523.2	2.917E+00	3.648E-03	4.372E-03	0.1010	0.1211
89	0.300	0.122	524.5	3.404E+00	4.264E-03	5.112E-03	0.1181	0.1416
24	0.300	0.160	522.3	3.525E+00	4.403E-03	5.275E-03	0.1220	0.1461
25	0.300	0.221	523.8	3.697E+00	4.628E-03	5.546E-03	0.1282	0.1536
90	0.400	-0.107	526.8	2.580E+00	3.242E-03	3.888E-03	0.0898	0.1077
32	0.400	0.107	526.0	2.437E+00	3.059E-03	3.667E-03	0.0847	0.1016
52	0.400	0.250	529.1	3.121E+00	3.933E-03	4.719E-03	0.1089	0.1307
91	0.425	0.061	527.9	2.300E+00	2.894E-03	3.472E-03	0.0801	0.0961
92	0.425	0.178	528.2	2.959E+00	3.724E-03	4.468E-03	0.1031	0.1237
93	0.500	-0.107	533.7	2.067E+00	2.620E-03	3.148E-03	0.0726	0.0872
35	0.500	0.107	530.5	1.994E+00	2.518E-03	3.022E-03	0.0697	0.0837
94	0.500	0.178	534.0	2.669E+00	3.384E-03	4.066E-03	0.0937	0.1126
53	0.500	0.250	535.7	2.923E+00	3.714E-03	4.465E-03	0.1029	0.1236
95	0.600	-0.250	547.0	2.261E+00	2.915E-03	3.514E-03	0.0807	0.0973
39	0.600	0.107	546.1	2.004E+00	2.580E-03	3.110E-03	0.0715	0.0861

RUN 123

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:08:39
DATE RECORDED: 9-JUN-95
TIME RECORDED: 17:03:39
00001184

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
123	S1R39	ZERO	29-0	7.98	458.8	1322.67	30.00	4.93	34.93	-0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.4	0.048	2.124	3879.	4.067E-05	7.920E-08	1.9917E+06	3.748E+06	3.611E 02	0.385

CO-AXIAL DATA

GAGE NO	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	546.7	2.206E+00	2.843E-03	3.427E-03	0.0787	0.0949
98	0.660	-0.107	557.1	2.109E+00	2.754E-03	3.330E-03	0.0763	0.0922
96	0.660	0.107	558.1	2.396E+00	3.134E-03	3.789E-03	0.0868	0.1049
97	0.660	0.250	558.1	1.859E+00	2.431E-03	2.940E-03	0.0673	0.0814
60	0.660	0.400	566.3	3.002E+00	3.969E-03	4.810E-03	0.1099	0.1332
65	0.700	0.500	578.9	3.661E+00	4.922E-03	5.986E-03	0.1363	0.1658
99	0.750	0.178	567.1	2.064E+00	2.732E-03	3.312E-03	0.0757	0.0917
100	0.755	0.400	575.3	2.468E+00	3.303E-03	4.013E-03	0.0915	0.1111
101	0.800	-0.250	567.7	2.427E+00	3.215E-03	3.897E-03	0.0890	0.1079
45	0.800	0.107	565.6	2.353E+00	3.108E-03	3.766E-03	0.0861	0.1043
56	0.800	0.250	567.6	2.438E+00	3.230E-03	3.915E-03	0.0894	0.1084
66	0.800	0.500	578.9	2.442E+00	3.283E-03	3.993E-03	0.0909	0.1106
70	0.800	0.600	585.6	3.153E+00	4.277E-03	5.212E-03	0.1185	0.1444
75	0.800	0.750	585.4	2.831E+00	3.839E-03	4.679E-03	0.1063	0.1296
102	0.886	0.732	572.8	3.030E+00	4.040E-03	4.906E-03	0.1119	0.1359
103	0.900	-0.107	562.7	2.777E+00	3.654E-03	4.425E-03	0.1012	0.1225
57	0.900	0.250	568.2	3.271E+00	4.336E-03	5.258E-03	0.1201	0.1456

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:08 43
DATE RECORDED: 9-JUN-95
TIME RECORDED: 17:15 56
00001185

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
124	S1R41	ZERO	29-O	7.96	335.7	1293.67	30.00	9.97	39.97	-0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.5	0.035	1.566	3832.	3.072E-05	7.762E-08	1.5164E+06	2.853E+06	3.088E-02	0.395

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	561.1	7.510E+00	1.025E-02	1.245E-02	0.3319	0.4031
6	0.060	0.000	550.0	5.438E+00	7.312E-03	8.852E-03	0.2368	0.2866
7	0.080	0.000	542.3	4.512E+00	6.004E-03	7.253E-03	0.1944	0.2348
8	0.100	0.000	540.2	4.193E+00	5.565E-03	6.719E-03	0.1802	0.2175
10	0.150	0.000	533.8	3.375E+00	4.442E-03	5.353E-03	0.1438	0.1733
16	0.192	0.000	527.2	3.020E+00	3.940E-03	4.740E-03	0.1276	0.1535
20	0.250	0.000	526.9	2.959E+00	3.859E-03	4.642E-03	0.1250	0.1503
23	0.300	0.000	524.0	2.773E+00	3.603E-03	4.331E-03	0.1167	0.1402
30	0.350	0.000	526.2	2.629E+00	3.426E-03	4.120E-03	0.1109	0.1334
31	0.400	0.000	523.8	2.380E+00	3.092E-03	3.716E-03	0.1001	0.1203
33	0.450	0.000	528.2	2.313E+00	3.022E-03	3.636E-03	0.0978	0.1177
34	0.500	0.000	531.9	2.322E+00	3.048E-03	3.671E-03	0.0987	0.1189
37	0.550	0.000	535.0	2.163E+00	2.851E-03	3.437E-03	0.0923	0.1113
38	0.600	0.000	544.0	2.186E+00	2.916E-03	3.525E-03	0.0944	0.1141
40	0.650	0.000	552.0	2.032E+00	2.740E-03	3.319E-03	0.0887	0.1075
41	0.700	0.000	553.9	1.976E+00	2.671E-03	3.237E-03	0.0865	0.1048
43	0.750	0.000	553.5	1.873E+00	2.530E-03	3.066E-03	0.0819	0.0993
46	0.850	0.000	558.9	1.762E+00	2.398E-03	2.910E-03	0.0776	0.0942
49	0.950	0.000	554.6	1.777E+00	2.405E-03	2.915E-03	0.0779	0.0944
86	0.125	0.055	541.1	4.227E+00	5.616E-03	6.782E-03	0.1818	0.2196
11	0.150	0.091	533.3	3.924E+00	5.161E-03	6.219E-03	0.1671	0.2014
17	0.192	0.107	533.2	3.591E+00	4.722E-03	5.690E-03	0.1529	0.1842
87	0.300	-0.106	525.2	3.265E+00	4.249E-03	5.109E-03	0.1376	0.1654
88	0.300	0.061	527.9	2.979E+00	3.890E-03	4.681E-03	0.1259	0.1516
89	0.300	0.122	529.3	3.509E+00	4.590E-03	5.525E-03	0.1486	0.1789
24	0.300	0.160	527.3	3.659E+00	4.775E-03	5.744E-03	0.1546	0.1860
25	0.300	0.221	528.1	3.675E+00	4.801E-03	5.777E-03	0.1554	0.1871
90	0.400	-0.107	527.2	2.649E+00	3.457E-03	4.159E-03	0.1119	0.1347
32	0.400	0.107	526.1	2.608E+00	3.398E-03	4.087E-03	0.1100	0.1323
52	0.400	0.250	530.6	3.169E+00	4.154E-03	5.002E-03	0.1345	0.1620
91	0.425	0.061	527.9	2.504E+00	3.270E-03	3.935E-03	0.1059	0.1274
92	0.425	0.178	528.2	3.010E+00	3.932E-03	4.732E-03	0.1273	0.1532
93	0.500	-0.107	532.5	2.234E+00	2.935E-03	3.536E-03	0.0950	0.1145
35	0.500	0.107	528.8	2.131E+00	2.785E-03	3.352E-03	0.0902	0.1085
94	0.500	0.178	532.9	2.755E+00	3.621E-03	4.363E-03	0.1173	0.1413
53	0.500	0.250	535.1	2.944E+00	3.881E-03	4.679E-03	0.1257	0.1515
95	0.600	-0.250	544.1	2.352E+00	3.139E-03	3.793E-03	0.1016	0.1228
39	0.600	0.107	542.7	2.188E+00	2.914E-03	3.521E-03	0.0944	0.1140

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED 06 08 43
DATE RECORDED: 9-JUN-95
TIME RECORDED: 17:15 56
000011186

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
124	S1R41	ZERO	29-0	7.96	335.7	1293.67	30.00	9.97	39.97	-0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.5	0.035	1.566	3832	3.072E-05	7.762E-08	1.5164E+06	2.853E+06	3.088E-02	0.395

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	542.8	2.356E+00	3.138E-03	3.791E-03	0.1016	0.1227
98	0.660	-0.107	552.6	2.081E+00	2.808E-03	3.402E-03	0.0909	0.1102
96	0.660	0.107	552.2	2.380E+00	3.210E-03	3.889E-03	0.1039	0.1259
97	0.660	0.250	552.7	1.928E+00	2.602E-03	3.153E-03	0.0843	0.1021
60	0.660	0.400	557.8	2.870E+00	3.901E-03	4.732E-03	0.1263	0.1532
65	0.700	0.500	562.7	3.455E+00	4.726E-03	5.743E-03	0.1530	0.1859
99	0.750	0.178	554.4	1.830E+00	2.475E-03	3.000E-03	0.0801	0.0971
100	0.755	0.400	559.6	2.241E+00	3.054E-03	3.707E-03	0.0989	0.1200
101	0.800	-0.250	558.3	1.885E+00	2.563E-03	3.110E-03	0.0830	0.1007
45	0.800	0.107	554.8	1.708E+00	2.312E-03	2.803E-03	0.0749	0.0908
56	0.800	0.250	556.2	2.016E+00	2.734E-03	3.316E-03	0.0885	0.1074
66	0.800	0.500	562.8	2.493E+00	3.411E-03	4.145E-03	0.1105	0.1342
70	0.800	0.600	566.1	2.964E+00	4.074E-03	4.955E-03	0.1319	0.1604
75	0.800	0.750	567.8	3.092E+00	4.260E-03	5.184E-03	0.1379	0.1678
102	0.886	0.732	561.7	3.075E+00	4.201E-03	5.102E-03	0.1360	0.1652
103	0.900	-0.107	555.7	1.943E+00	2.632E-03	3.192E-03	0.0852	0.1034
57	0.900	0.250	560.8	2.511E+00	3.426E-03	4.161E-03	0.1109	0.1347

RUN 124

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL 9[illegible]
TIME COMPUTED: 06:08:46
DATE RECORDED: 9-JUN-95
TIME RECORDED: 17:18:27
00001118?

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
125	S1R43	ZERO	29-0	7.96	329.8	1290.67	30.00	4.94	34.94	-0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.2	0.035	1.539	3827.	3.027E-05	7.744E-08	1.4957E+06	2.814E+06	3.061E-02	0.397

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	572.0	6.497E+00	9.041E-03	1.102E-02	0.2954	0.3601
6	0.060	0.000	561.1	4.700E+00	6.441E-03	7.826E-03	0.2105	0.2557
7	0.080	0.000	552.2	3.837E+00	5.195E-03	6.296E-03	0.1698	0.2057
8	0.100	0.000	548.2	3.575E+00	4.815E-03	5.829E-03	0.1573	0.1904
10	0.150	0.000	538.2	2.798E+00	3.718E-03	4.488E-03	0.1215	0.1466
16	0.192	0.000	526.8	2.622E+00	3.432E-03	4.130E-03	0.1121	0.1349
20	0.250	0.000	525.6	2.575E+00	3.366E-03	4.049E-03	0.1100	0.1323
23	0.300	0.000	523.7	2.331E+00	3.039E-03	3.654E-03	0.0993	0.1194
30	0.350	0.000	525.1	2.187E+00	2.857E-03	3.436E-03	0.0933	0.1123
31	0.400	0.000	521.5	2.031E+00	2.640E-03	3.173E-03	0.0863	0.1037
33	0.450	0.000	526.5	1.990E+00	2.604E-03	3.133E-03	0.0851	0.1024
34	0.500	0.000	532.0	1.918E+00	2.528E-03	3.047E-03	0.0826	0.0995
37	0.550	0.000	537.4	1.779E+00	2.361E-03	2.850E-03	0.0772	0.0931
38	0.600	0.000	545.2	1.805E+00	2.422E-03	2.929E-03	0.0791	0.0957
40	0.650	0.000	551.0	1.736E+00	2.347E-03	2.843E-03	0.0767	0.0929
41	0.700	0.000	557.2	1.666E+00	2.271E-03	2.756E-03	0.0742	0.0900
43	0.750	0.000	557.8	1.587E+00	2.165E-03	2.628E-03	0.0707	0.0859
46	0.850	0.000	560.5	1.516E+00	2.076E-03	2.522E-03	0.0678	0.0824
49	0.950	0.000	555.4	1.372E+00	1.866E-03	2.264E-03	0.0610	0.0740
86	0.125	0.055	546.1	3.519E+00	4.726E-03	5.717E-03	0.1544	0.1868
11	0.150	0.091	535.7	3.512E+00	4.651E-03	5.610E-03	0.1520	0.1833
17	0.192	0.107	532.4	3.102E+00	4.091E-03	4.930E-03	0.1337	0.1611
87	0.300	-0.106	526.0	2.805E+00	3.669E-03	4.414E-03	0.1199	0.1442
88	0.300	0.061	527.1	2.442E+00	3.198E-03	3.849E-03	0.1045	0.1257
89	0.300	0.122	526.9	2.936E+00	3.844E-03	4.625E-03	0.1256	0.1511
24	0.300	0.160	523.6	3.147E+00	4.103E-03	4.933E-03	0.1341	0.1612
25	0.300	0.221	523.4	3.331E+00	4.342E-03	5.220E-03	0.1419	0.1706
90	0.400	-0.107	526.5	2.301E+00	3.011E-03	3.623E-03	0.0984	0.1184
32	0.400	0.107	522.9	2.182E+00	2.842E-03	3.416E-03	0.0928	0.1116
52	0.400	0.250	525.8	2.852E+00	3.728E-03	4.485E-03	0.1218	0.1465
91	0.425	0.061	524.8	2.122E+00	2.771E-03	3.333E-03	0.0905	0.1089
92	0.425	0.178	524.2	2.584E+00	3.371E-03	4.053E-03	0.1101	0.1324
93	0.500	-0.107	534.0	1.892E+00	2.501E-03	3.015E-03	0.0817	0.0985
35	0.500	0.107	528.2	1.791E+00	2.350E-03	2.828E-03	0.0768	0.0924
94	0.500	0.178	530.9	2.367E+00	3.115E-03	3.753E-03	0.1018	0.1226
53	0.500	0.250	532.1	2.590E+00	3.415E-03	4.115E-03	0.1116	0.1344
95	0.600	-0.250	544.7	1.964E+00	2.632E-03	3.183E-03	0.0860	0.1040
39	0.600	0.107	543.7	1.768E+00	2.367E-03	2.861E-03	0.0773	0.0935

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:08:50
DATE RECORDED: 9-JUN-95
TIME RECORDED: 17:28:05
000011189

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
126	S1R45	ZERO	29-0	7.99	623.8	1320.67	30.00	9.98	39.98	-0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.9	0.064	2.871	3878	5.499E-05	7.878E-08	2.7067E+06	5.093E+06	4.197E-02	0.395

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	586.6	1.043E+01	1.420E-02	1.732E-02	0.3384	0.4126
6	0.060	0.000	572.7	7.586E+00	1.014E-02	1.232E-02	0.2417	0.2935
7	0.080	0.000	563.5	6.344E+00	8.379E-03	1.015E-02	0.1997	0.2418
8	0.100	0.000	560.7	5.896E+00	7.758E-03	9.390E-03	0.1849	0.2237
10	0.150	0.000	552.8	4.697E+00	6.117E-03	7.388E-03	0.1458	0.1760
16	0.192	0.000	545.0	4.194E+00	5.407E-03	6.517E-03	0.1288	0.1553
20	0.250	0.000	544.9	4.130E+00	5.324E-03	6.416E-03	0.1269	0.1529
23	0.300	0.000	541.2	3.955E+00	5.073E-03	6.108E-03	0.1209	0.1455
30	0.350	0.000	542.2	3.614E+00	4.643E-03	5.591E-03	0.1106	0.1332
31	0.400	0.000	538.8	3.322E+00	4.249E-03	5.112E-03	0.1012	0.1218
33	0.450	0.000	543.2	3.301E+00	4.245E-03	5.114E-03	0.1012	0.1219
34	0.500	0.000	547.2	3.439E+00	4.447E-03	5.362E-03	0.1060	0.1278
37	0.550	0.000	554.9	3.283E+00	4.287E-03	5.180E-03	0.1022	0.1234
38	0.600	0.000	569.7	3.710E+00	4.941E-03	5.995E-03	0.1177	0.1429
40	0.650	0.000	574.2	4.024E+00	5.391E-03	6.550E-03	0.1285	0.1561
41	0.700	0.000	576.5	4.718E+00	6.339E-03	7.707E-03	0.1511	0.1836
43	0.750	0.000	577.6	5.583E+00	7.513E-03	9.137E-03	0.1790	0.2177
46	0.850	0.000	587.2	7.775E+00	1.060E-02	1.293E-02	0.2526	0.3081
49	0.950	0.000	577.5	7.355E+00	9.897E-03	1.204E-02	0.2358	0.2868
86	0.125	0.055	561.5	5.952E+00	7.840E-03	9.491E-03	0.1868	0.2262
11	0.150	0.091	552.4	5.444E+00	7.087E-03	8.558E-03	0.1689	0.2039
17	0.192	0.107	551.4	4.993E+00	6.490E-03	7.836E-03	0.1547	0.1867
87	0.300	-0.106	542.9	4.572E+00	5.879E-03	7.081E-03	0.1401	0.1687
88	0.300	0.061	545.3	4.209E+00	5.429E-03	6.543E-03	0.1294	0.1559
89	0.300	0.122	547.6	4.974E+00	6.434E-03	7.760E-03	0.1533	0.1849
24	0.300	0.160	545.4	5.164E+00	6.661E-03	8.029E-03	0.1587	0.1913
25	0.300	0.221	545.2	5.125E+00	6.609E-03	7.965E-03	0.1575	0.1898
90	0.400	-0.107	542.4	3.752E+00	4.821E-03	5.807E-03	0.1149	0.1384
32	0.400	0.107	541.1	3.634E+00	4.661E-03	5.612E-03	0.1111	0.1337
52	0.400	0.250	546.0	4.351E+00	5.617E-03	6.772E-03	0.1338	0.1614
91	0.425	0.061	542.9	3.484E+00	4.480E-03	5.396E-03	0.1067	0.1286
92	0.425	0.178	544.1	4.271E+00	5.500E-03	6.627E-03	0.1311	0.1579
93	0.500	-0.107	546.7	3.228E+00	4.170E-03	5.028E-03	0.0994	0.1198
35	0.500	0.107	542.7	2.997E+00	3.853E-03	4.641E-03	0.0918	0.1106
94	0.500	0.178	547.8	3.955E+00	5.118E-03	6.172E-03	0.1219	0.1471
53	0.500	0.250	550.4	4.237E+00	5.500E-03	6.638E-03	0.1311	0.1582
95	0.600	-0.250	567.7	3.631E+00	4.822E-03	5.848E-03	0.1149	0.1393
39	0.600	0.107	567.9	3.612E+00	4.798E-03	5.819E-03	0.1143	0.1386

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:08:50
DATE RECORDED: 9-JUN-95
TIME RECORDED: 17:28:05
000011190

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
126	S1R45	ZERO	29-0	7.99	623.8	1320.67	30.00	9.98	39.98	-0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.9	0.064	2.871	3878	5.499E-05	7.878E-08	2.7067E+06	5.093E+06	4.197E-02	0.395

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	567.4	3.549E+00	4.711E-03	5.712E-03	0.1123	0.1361
98	0.660	-0.107	573.9	4.083E+00	5.468E-03	6.642E-03	0.1303	0.1583
96	0.660	0.107	574.5	4.635E+00	6.212E-03	7.548E-03	0.1480	0.1798
97	0.660	0.250	574.0	3.519E+00	4.713E-03	5.726E-03	0.1123	0.1364
60	0.660	0.400	578.7	4.478E+00	6.035E-03	7.342E-03	0.1438	0.1749
65	0.700	0.500	586.2	5.048E+00	6.874E-03	8.381E-03	0.1638	0.1997
99	0.750	0.178	578.5	5.188E+00	6.990E-03	8.502E-03	0.1665	0.2026
100	0.755	0.400	584.6	4.996E+00	6.787E-03	8.271E-03	0.1617	0.1971
101	0.800	-0.250	584.3	6.705E+00	9.105E-03	1.110E-02	0.2170	0.2644
45	0.800	0.107	581.0	6.445E+00	8.714E-03	1.061E-02	0.2076	0.2528
56	0.800	0.250	583.5	6.832E+00	9.268E-03	1.129E-02	0.2208	0.2690
66	0.800	0.500	588.6	5.564E+00	7.600E-03	9.273E-03	0.1811	0.2210
70	0.800	0.600	591.3	5.069E+00	6.950E-03	8.487E-03	0.1656	0.2022
75	0.800	0.750	591.3	4.620E+00	6.334E-03	7.735E-03	0.1509	0.1843
102	0.886	0.732	582.8	5.321E+00	7.211E-03	8.784E-03	0.1718	0.2093
103	0.900	-0.107	579.4	7.415E+00	1.000E-02	1.217E-02	0.2384	0.2900
57	0.900	0.250	586.4	8.142E+00	1.109E-02	1.352E-02	0.2642	0.3222

RUN 126

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:08:53
DATE RECORDED: 9-JUN-95
TIME RECORDED: 17:45:19
000011191

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
127	S1R26	ZERO	29-O	8.01	850.4	1340.67	30.00	9.98	39.98	-0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
99.2	0.087	3.897	3912.	7.333E-05	7.982E-08	3.5940E+06	6.763E+06	4.901E-02	0.132

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	302.4	1.361E+01	1.311E-02	1.505E-02	0.2674	0.3071
6	0.060	0.000	267.2	9.587E+00	8.931E-03	1.021E-02	0.1822	0.2082
7	0.080	0.000	264.5	9.709E+00	9.022E-03	1.031E-02	0.1841	0.2103
8	0.100	0.000	262.4	8.730E+00	8.097E-03	9.246E-03	0.1652	0.1887
10	0.150	0.000	287.4	1.022E+01	9.706E-03	1.112E-02	0.1980	0.2269
16	0.192	0.000	301.1	1.316E+01	1.266E-02	1.453E-02	0.2583	0.2965
20	0.250	0.000	298.2	1.549E+01	1.486E-02	1.706E-02	0.3033	0.3480
23	0.300	0.000	287.9	1.497E+01	1.422E-02	1.630E-02	0.2902	0.3326
30	0.350	0.000	302.9	1.556E+01	1.499E-02	1.721E-02	0.3059	0.3512
31	0.400	0.000	293.6	1.568E+01	1.497E-02	1.717E-02	0.3055	0.3503
33	0.450	0.000	296.8	1.618E+01	1.550E-02	1.779E-02	0.3163	0.3629
34	0.500	0.000	296.5	1.665E+01	1.594E-02	1.829E-02	0.3253	0.3733
37	0.550	0.000	290.5	1.604E+01	1.527E-02	1.751E-02	0.3116	0.3572
38	0.600	0.000	301.7	1.702E+01	1.638E-02	1.881E-02	0.3343	0.3838
40	0.650	0.000	302.6	1.650E+01	1.590E-02	1.825E-02	0.3243	0.3724
41	0.700	0.000	297.8	1.644E+01	1.576E-02	1.809E-02	0.3216	0.3690
43	0.750	0.000	299.1	1.633E+01	1.567E-02	1.799E-02	0.3198	0.3671
46	0.850	0.000	314.3	1.780E+01	1.734E-02	1.994E-02	0.3538	0.4069
49	0.950	0.000	287.5	1.320E+01	1.253E-02	1.436E-02	0.2557	0.2930
86	0.125	0.055	264.0	8.988E+00	8.348E-03	9.535E-03	0.1703	0.1946
11	0.150	0.091	267.6	7.813E+00	7.281E-03	8.320E-03	0.1486	0.1698
17	0.192	0.107	311.0	7.372E+00	7.159E-03	8.231E-03	0.1461	0.1679
87	0.300	-0.106	303.2	1.318E+01	1.270E-02	1.459E-02	0.2592	0.2976
88	0.300	0.061	286.1	1.380E+01	1.309E-02	1.500E-02	0.2671	0.3059
89	0.300	0.122	321.1	1.605E+01	1.574E-02	1.813E-02	0.3212	0.3699
24	0.300	0.160	331.5	1.528E+01	1.514E-02	1.746E-02	0.3090	0.3563
25	0.300	0.221	333.4	8.427E+00	8.366E-03	9.650E-03	0.1707	0.1969
90	0.400	-0.107	308.3	1.393E+01	1.350E-02	1.551E-02	0.2754	0.3165
32	0.400	0.107	311.1	1.554E+01	1.509E-02	1.735E-02	0.3079	0.3540
52	0.400	0.250	350.3	1.573E+01	1.588E-02	1.837E-02	0.3241	0.3748
91	0.425	0.061	302.1	1.523E+01	1.466E-02	1.684E-02	0.2992	0.3435
92	0.425	0.178	321.5	1.616E+01	1.585E-02	1.825E-02	0.3234	0.3724
93	0.500	-0.107	300.6	1.560E+01	1.500E-02	1.722E-02	0.3060	0.3513
35	0.500	0.107	292.8	1.528E+01	1.458E-02	1.672E-02	0.2975	0.3411
94	0.500	0.178	306.9	1.651E+01	1.597E-02	1.835E-02	0.3258	0.3743
53	0.500	0.250	316.2	1.664E+01	1.624E-02	1.869E-02	0.3314	0.3813
95	0.600	-0.250	334.1	1.624E+01	1.614E-02	1.862E-02	0.3293	0.3799
39	0.600	0.107	309.3	1.639E+01	1.589E-02	1.826E-02	0.3242	0.3726

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:08.53
DATE RECORDED: 9-JUN-95
TIME RECORDED: 17:45.19
000011192

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
127	S1R26	ZERO	29-O	8.01	850.4	1340.67	30.00	9.98	39.98	-0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
99.2	0.087	3.897	3912.	7.333E-05	7.982E-08	3.5940E+06	6.763E+06	4.901E-02	0.132

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	320.0	1.698E+01	1.663E-02	1.915E-02	0.3394	0.3907
98	0.660	-0.107	316.1	1.637E+01	1.598E-02	1.839E-02	0.3260	0.3751
96	0.660	0.107	309.1	1.647E+01	1.597E-02	1.835E-02	0.3258	0.3744
97	0.660	0.250	326.3	1.706E+01	1.682E-02	1.938E-02	0.3431	0.3953
60	0.660	0.400	325.5	2.033E+01	2.003E-02	2.307E-02	0.4086	0.4708
65	0.700	0.500	337.8	2.447E+01	2.440E-02	2.817E-02	0.4979	0.5747
99	0.750	0.178	315.4	1.629E+01	1.589E-02	1.828E-02	0.3242	0.3730
100	0.755	0.400	312.6	2.008E+01	1.954E-02	2.247E-02	0.3986	0.4584
101	0.800	-0.250	369.2	1.592E+01	1.639E-02	1.901E-02	0.3343	0.3879
45	0.800	0.107	309.4	1.627E+01	1.577E-02	1.813E-02	0.3218	0.3699
56	0.800	0.250	320.1	1.723E+01	1.688E-02	1.944E-02	0.3445	0.3965
66	0.800	0.500	313.7	2.114E+01	2.058E-02	2.367E-02	0.4200	0.4830
70	0.800	0.600	326.9	2.337E+01	2.305E-02	2.656E-02	0.4703	0.5420
75	0.800	0.750	333.2	2.481E+01	2.462E-02	2.840E-02	0.5024	0.5795
102	0.886	0.732	296.0	2.113E+01	2.023E-02	2.321E-02	0.4128	0.4735
103	0.900	-0.107	329.0	1.340E+01	1.324E-02	1.527E-02	0.2702	0.3115
57	0.900	0.250	317.3	1.501E+01	1.467E-02	1.688E-02	0.2993	0.3444

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:08.57
DATE RECORDED: 9-JUN-95
TIME RECORDED: 18:02.39
000011193

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
128	S1R50	ZERO	29-0	8.01	849.4	1335.67	30.00	9.99	39.99	0.00

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.8	0.087	3.892	3904.	7.354E-05	7.949E-08	3.6119E+06	6.796E+06	4.895E-02	0.132

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	309.5	1.386E+01	1.351E-02	1.553E-02	0.2759	0.3171
6	0.060	0.000	277.4	9.993E+00	9.443E-03	1.081E-02	0.1929	0.2208
7	0.080	0.000	271.0	9.959E+00	9.355E-03	1.070E-02	0.1911	0.2185
8	0.100	0.000	250.7	7.831E+00	7.217E-03	8.230E-03	0.1474	0.1681
10	0.150	0.000	252.8	7.363E+00	6.800E-03	7.756E-03	0.1389	0.1584
16	0.192	0.000	247.4	6.622E+00	6.085E-03	6.937E-03	0.1243	0.1417
20	0.250	0.000	242.8	6.467E+00	5.918E-03	6.742E-03	0.1209	0.1377
23	0.300	0.000	245.8	7.142E+00	6.553E-03	7.469E-03	0.1339	0.1526
30	0.350	0.000	265.0	8.128E+00	7.591E-03	8.673E-03	0.1551	0.1772
31	0.400	0.000	298.1	1.540E+01	1.484E-02	1.703E-02	0.3031	0.3479
33	0.450	0.000	311.4	1.694E+01	1.653E-02	1.901E-02	0.3378	0.3884
34	0.500	0.000	307.1	1.656E+01	1.610E-02	1.850E-02	0.3288	0.3779
37	0.550	0.000	302.4	1.596E+01	1.545E-02	1.774E-02	0.3156	0.3624
38	0.600	0.000	311.3	1.668E+01	1.628E-02	1.873E-02	0.3327	0.3825
40	0.650	0.000	312.3	1.656E+01	1.618E-02	1.861E-02	0.3306	0.3802
41	0.700	0.000	305.5	1.640E+01	1.592E-02	1.829E-02	0.3251	0.3736
43	0.750	0.000	306.3	1.626E+01	1.580E-02	1.815E-02	0.3227	0.3708
46	0.850	0.000	308.3	1.619E+01	1.576E-02	1.812E-02	0.3219	0.3700
49	0.950	0.000	282.8	1.351E+01	1.283E-02	1.470E-02	0.2621	0.3002
86	0.125	0.055	262.1	8.611E+00	8.021E-03	9.161E-03	0.1639	0.1871
11	0.150	0.091	268.7	8.487E+00	7.955E-03	9.093E-03	0.1625	0.1857
17	0.192	0.107	309.3	9.273E+00	9.034E-03	1.039E-02	0.1845	0.2121
87	0.300	-0.106	254.3	7.245E+00	6.699E-03	7.644E-03	0.1368	0.1561
88	0.300	0.061	281.7	1.135E+01	1.077E-02	1.233E-02	0.2200	0.2520
89	0.300	0.122	312.7	1.640E+01	1.603E-02	1.844E-02	0.3275	0.3767
24	0.300	0.160	322.3	1.747E+01	1.724E-02	1.985E-02	0.3521	0.4055
25	0.300	0.221	333.1	1.650E+01	1.646E-02	1.899E-02	0.3362	0.3879
90	0.400	-0.107	275.4	6.999E+00	6.601E-03	7.553E-03	0.1348	0.1543
32	0.400	0.107	315.7	1.581E+01	1.550E-02	1.783E-02	0.3166	0.3643
52	0.400	0.250	339.7	1.592E+01	1.598E-02	1.846E-02	0.3265	0.3770
91	0.425	0.061	311.2	1.535E+01	1.498E-02	1.723E-02	0.3061	0.3520
92	0.425	0.178	327.6	1.634E+01	1.621E-02	1.868E-02	0.3311	0.3816
93	0.500	-0.107	316.4	1.610E+01	1.580E-02	1.818E-02	0.3227	0.3714
35	0.500	0.107	311.0	1.537E+01	1.500E-02	1.724E-02	0.3063	0.3523
94	0.500	0.178	327.3	1.655E+01	1.641E-02	1.891E-02	0.3352	0.3864
53	0.500	0.250	339.7	1.676E+01	1.683E-02	1.944E-02	0.3438	0.3971
95	0.600	-0.250	367.2	1.585E+01	1.637E-02	1.899E-02	0.3344	0.3879
39	0.600	0.107	324.2	1.639E+01	1.621E-02	1.867E-02	0.3311	0.3815

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:08:57
DATE RECORDED: 9-JUN-95
TIME RECORDED: 18:02:39
000011194

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
128	S1R50	ZERO	29-O	8.01	849.4	1335.67	30.00	9.99	39.99	0.00

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.8	0.087	3.892	3904.	7.354E-05	7.949E-08	3.6119E+06	6.796E+06	4.895E-02	0.132

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	348.4	1.676E+01	1.698E-02	1.964E-02	0.3469	0.4011
98	0.660	-0.107	327.7	1.622E+01	1.609E-02	1.855E-02	0.3287	0.3789
96	0.660	0.107	320.3	1.645E+01	1.620E-02	1.865E-02	0.3309	0.3810
97	0.660	0.250	344.5	1.691E+01	1.706E-02	1.972E-02	0.3485	0.4027
60	0.660	0.400	368.7	1.909E+01	1.974E-02	2.290E-02	0.4032	0.4678
65	0.700	0.500	381.0	2.290E+01	2.398E-02	2.789E-02	0.4899	0.5696
99	0.750	0.178	324.5	1.603E+01	1.586E-02	1.827E-02	0.3239	0.3732
100	0.755	0.400	319.6	1.974E+01	1.942E-02	2.236E-02	0.3968	0.4568
101	0.800	-0.250	384.1	1.572E+01	1.652E-02	1.922E-02	0.3374	0.3925
45	0.800	0.107	315.2	1.608E+01	1.576E-02	1.813E-02	0.3219	0.3704
56	0.800	0.250	328.4	1.682E+01	1.670E-02	1.925E-02	0.3411	0.3932
66	0.800	0.500	317.3	2.099E+01	2.061E-02	2.372E-02	0.4209	0.4845
70	0.800	0.600	334.2	2.339E+01	2.335E-02	2.695E-02	0.4770	0.5504
75	0.800	0.750	342.3	2.397E+01	2.413E-02	2.788E-02	0.4929	0.5695
102	0.886	0.732	306.7	2.058E+01	2.000E-02	2.298E-02	0.4085	0.4694
103	0.900	-0.107	306.6	1.406E+01	1.366E-02	1.570E-02	0.2791	0.3207
57	0.900	0.250	317.2	1.501E+01	1.474E-02	1.697E-02	0.3011	0.3466

RUN 128

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:00
DATE RECORDED: 9-JUN-95
TIME RECORDED: 18:07:28
000011195

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
129	S1R28	ZERO	29-O	8.01	848.8	1334.67	30.00	4.97	34.97	-0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.7	0.087	3.890	3903.	7.355E-05	7.943E-08	3.6138E+06	6.800E+06	4.893E-02	0.128

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	306.4	1.288E+01	1.253E-02	1.440E-02	0.2561	0.2943
6	0.060	0.000	269.2	9.145E+00	8.584E-03	9.813E-03	0.1754	0.2005
7	0.080	0.000	257.1	8.916E+00	8.274E-03	9.444E-03	0.1691	0.1930
8	0.100	0.000	245.4	7.856E+00	7.212E-03	8.219E-03	0.1474	0.1680
10	0.150	0.000	250.2	7.083E+00	6.532E-03	7.449E-03	0.1335	0.1522
16	0.192	0.000	257.9	7.754E+00	7.202E-03	8.220E-03	0.1472	0.1680
20	0.250	0.000	260.7	9.615E+00	8.952E-03	1.022E-02	0.1830	0.2089
23	0.300	0.000	268.5	1.222E+01	1.147E-02	1.311E-02	0.2343	0.2679
30	0.350	0.000	281.4	1.334E+01	1.267E-02	1.450E-02	0.2588	0.2964
31	0.400	0.000	276.0	1.349E+01	1.275E-02	1.459E-02	0.2605	0.2981
33	0.450	0.000	284.1	1.443E+01	1.374E-02	1.574E-02	0.2807	0.3216
34	0.500	0.000	286.9	1.499E+01	1.430E-02	1.639E-02	0.2923	0.3350
37	0.550	0.000	285.3	1.493E+01	1.423E-02	1.630E-02	0.2908	0.3332
38	0.600	0.000	290.1	1.559E+01	1.492E-02	1.711E-02	0.3049	0.3496
40	0.650	0.000	300.5	1.545E+01	1.494E-02	1.716E-02	0.3054	0.3506
41	0.700	0.000	302.5	1.545E+01	1.497E-02	1.719E-02	0.3060	0.3514
43	0.750	0.000	297.9	1.512E+01	1.458E-02	1.674E-02	0.2980	0.3421
46	0.850	0.000	298.6	1.485E+01	1.433E-02	1.645E-02	0.2929	0.3362
49	0.950	0.000	267.5	1.158E+01	1.085E-02	1.240E-02	0.2218	0.2535
86	0.125	0.055	278.2	1.130E+01	1.070E-02	1.224E-02	0.2186	0.2502
11	0.150	0.091	249.7	8.020E+00	7.392E-03	8.429E-03	0.1511	0.1723
17	0.192	0.107	316.3	1.288E+01	1.265E-02	1.456E-02	0.2585	0.2975
87	0.300	-0.106	286.3	1.258E+01	1.200E-02	1.375E-02	0.2453	0.2811
88	0.300	0.061	278.3	1.370E+01	1.297E-02	1.485E-02	0.2651	0.3034
89	0.300	0.122	292.9	1.493E+01	1.433E-02	1.644E-02	0.2929	0.3360
24	0.300	0.160	297.1	1.524E+01	1.469E-02	1.685E-02	0.3001	0.3444
25	0.300	0.221	309.0	1.468E+01	1.431E-02	1.646E-02	0.2925	0.3363
90	0.400	-0.107	285.2	1.268E+01	1.208E-02	1.384E-02	0.2469	0.2829
32	0.400	0.107	295.6	1.405E+01	1.352E-02	1.551E-02	0.2763	0.3170
52	0.400	0.250	315.3	1.386E+01	1.359E-02	1.564E-02	0.2778	0.3197
91	0.425	0.061	286.4	1.340E+01	1.278E-02	1.465E-02	0.2613	0.2994
92	0.425	0.178	306.6	1.474E+01	1.433E-02	1.647E-02	0.2929	0.3366
93	0.500	-0.107	290.1	1.431E+01	1.370E-02	1.571E-02	0.2800	0.3210
35	0.500	0.107	287.5	1.415E+01	1.351E-02	1.548E-02	0.2761	0.3164
94	0.500	0.178	303.2	1.532E+01	1.485E-02	1.706E-02	0.3036	0.3487
53	0.500	0.250	312.6	1.561E+01	1.527E-02	1.756E-02	0.3121	0.3590
95	0.600	-0.250	318.5	1.470E+01	1.447E-02	1.665E-02	0.2956	0.3403
39	0.600	0.107	300.0	1.555E+01	1.503E-02	1.725E-02	0.3071	0.3526

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:00
DATE RECORDED: 9-JUN-95
TIME RECORDED: 18:07:28
000011196

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
129	S1R28	ZERO	29-O	8.01	848.8	1334.67	30.00	4.97	34.97	-0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.7	0.087	3.890	3903.	7.355E-05	7.943E-08	3.6138E+06	6.800E+06	4.893E-02	0.128

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	313.1	1.577E+01	1.544E-02	1.776E-02	0.3155	0.3629
98	0.660	-0.107	317.1	1.532E+01	1.505E-02	1.732E-02	0.3076	0.3541
96	0.660	0.107	311.9	1.552E+01	1.517E-02	1.745E-02	0.3101	0.3566
97	0.660	0.250	331.8	1.581E+01	1.577E-02	1.819E-02	0.3222	0.3717
60	0.660	0.400	352.6	1.879E+01	1.914E-02	2.215E-02	0.3911	0.4526
65	0.700	0.500	390.1	2.244E+01	2.376E-02	2.766E-02	0.4855	0.5654
99	0.750	0.178	315.2	1.510E+01	1.481E-02	1.704E-02	0.3027	0.3483
100	0.755	0.400	318.8	1.878E+01	1.848E-02	2.128E-02	0.3777	0.4349
101	0.800	-0.250	349.9	1.573E+01	1.597E-02	1.848E-02	0.3265	0.3776
45	0.800	0.107	304.4	1.479E+01	1.435E-02	1.649E-02	0.2933	0.3370
56	0.800	0.250	317.7	1.600E+01	1.574E-02	1.811E-02	0.3216	0.3702
66	0.800	0.500	315.3	2.012E+01	1.974E-02	2.271E-02	0.4034	0.4641
70	0.800	0.600	344.8	2.226E+01	2.249E-02	2.600E-02	0.4596	0.5313
75	0.800	0.750	394.5	2.146E+01	2.282E-02	2.660E-02	0.4665	0.5436
102	0.886	0.732	305.7	1.930E+01	1.876E-02	2.156E-02	0.3834	0.4405
103	0.900	-0.107	296.9	1.291E+01	1.244E-02	1.427E-02	0.2542	0.2917
57	0.900	0.250	303.1	1.396E+01	1.353E-02	1.554E-02	0.2765	0.3176

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06 09 04
DATE RECORDED: 9-JUN-95
TIME RECORDED: 18:20:40
000011197

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
130	S1R30	ZERO	29-0	8.00	708.1	1330.67	30.00	9.96	39.96	-0.01

I (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.6	0.073	3.252	3895.	6.175E-05	7.932E-08	3.0320E+06	5.705E+06	4.472E-02	0.124

CO-AXIAL DATA

GAGE NO.	X/L	2Y/R	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	315.4	1.250E+01	1.231E-02	1.417E-02	0.2753	0.3168
6	0.060	0.000	279.5	9.145E+00	8.700E-03	9.961E-03	0.1945	0.2227
7	0.080	0.000	254.3	7.989E+00	7.422E-03	8.469E-03	0.1660	0.1894
8	0.100	0.000	242.2	7.258E+00	6.668E-03	7.597E-03	0.1491	0.1699
10	0.150	0.000	235.6	6.747E+00	6.161E-03	7.013E-03	0.1378	0.1568
16	0.192	0.000	280.4	1.268E+01	1.207E-02	1.382E-02	0.2699	0.3090
20	0.250	0.000	280.2	1.428E+01	1.359E-02	1.556E-02	0.3039	0.3480
23	0.300	0.000	266.4	1.303E+01	1.224E-02	1.399E-02	0.2737	0.3129
30	0.350	0.000	272.8	1.289E+01	1.218E-02	1.393E-02	0.2724	0.3116
31	0.400	0.000	271.1	1.336E+01	1.261E-02	1.442E-02	0.2819	0.3224
33	0.450	0.000	273.9	1.376E+01	1.302E-02	1.490E-02	0.2911	0.3331
34	0.500	0.000	270.3	1.362E+01	1.284E-02	1.469E-02	0.2872	0.3284
37	0.550	0.000	269.4	1.347E+01	1.269E-02	1.451E-02	0.2838	0.3245
38	0.600	0.000	276.8	1.404E+01	1.333E-02	1.525E-02	0.2980	0.3411
40	0.650	0.000	286.5	1.474E+01	1.412E-02	1.618E-02	0.3157	0.3618
41	0.700	0.000	285.4	1.529E+01	1.463E-02	1.677E-02	0.3272	0.3749
43	0.750	0.000	284.4	1.497E+01	1.431E-02	1.639E-02	0.3199	0.3665
46	0.850	0.000	289.3	1.399E+01	1.343E-02	1.540E-02	0.3003	0.3443
49	0.950	0.000	270.9	1.144E+01	1.080E-02	1.235E-02	0.2414	0.2761
86	0.125	0.055	248.5	7.955E+00	7.351E-03	8.382E-03	0.1644	0.1874
11	0.150	0.091	253.7	8.753E+00	8.127E-03	9.273E-03	0.1817	0.2073
17	0.192	0.107	315.5	1.419E+01	1.397E-02	1.608E-02	0.3124	0.3596
87	0.300	-0.106	283.2	1.412E+01	1.348E-02	1.545E-02	0.3015	0.3454
88	0.300	0.061	270.0	1.295E+01	1.221E-02	1.396E-02	0.2731	0.3122
89	0.300	0.122	283.7	1.403E+01	1.340E-02	1.535E-02	0.2996	0.3432
24	0.300	0.160	286.1	1.422E+01	1.361E-02	1.560E-02	0.3044	0.3488
25	0.300	0.221	297.9	1.379E+01	1.335E-02	1.533E-02	0.2986	0.3428
90	0.400	-0.107	277.7	1.301E+01	1.235E-02	1.414E-02	0.2763	0.3162
32	0.400	0.107	283.6	1.348E+01	1.288E-02	1.475E-02	0.2879	0.3298
52	0.400	0.250	299.4	1.298E+01	1.258E-02	1.445E-02	0.2813	0.3230
91	0.425	0.061	277.4	1.298E+01	1.232E-02	1.410E-02	0.2755	0.3154
92	0.425	0.178	289.1	1.362E+01	1.308E-02	1.499E-02	0.2925	0.3353
93	0.500	-0.107	275.1	1.317E+01	1.248E-02	1.428E-02	0.2790	0.3193
35	0.500	0.107	274.8	1.345E+01	1.274E-02	1.458E-02	0.2849	0.3260
94	0.500	0.178	282.9	1.362E+01	1.300E-02	1.489E-02	0.2906	0.3329
53	0.500	0.250	293.6	1.395E+01	1.345E-02	1.543E-02	0.3008	0.3451
95	0.600	-0.250	305.9	1.388E+01	1.355E-02	1.557E-02	0.3029	0.3481
39	0.600	0.107	291.6	1.452E+01	1.397E-02	1.602E-02	0.3124	0.3583

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:04
DATE RECORDED: 9-JUN-95
TIME RECORDED: 18:20:40
000011198

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
130	S1R30	ZERO	29-O	8.00	708.1	1330.67	30.00	9.96	39.96	-0.01

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.6	0.073	3.252	3895.	6.175E-05	7.932E-08	3.0320E+06	5.705E+06	4.472E-02	0.124

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	301.3	1.447E+01	1.406E-02	1.615E-02	0.3144	0.3610
98	0.660	-0.107	297.2	1.435E+01	1.389E-02	1.594E-02	0.3105	0.3564
96	0.660	0.107	291.7	1.450E+01	1.395E-02	1.600E-02	0.3120	0.3579
97	0.660	0.250	309.9	1.479E+01	1.449E-02	1.666E-02	0.3239	0.3725
60	0.660	0.400	317.2	1.766E+01	1.742E-02	2.005E-02	0.3896	0.4484
65	0.700	0.500	345.0	2.030E+01	2.060E-02	2.381E-02	0.4606	0.5325
99	0.750	0.178	297.7	1.427E+01	1.381E-02	1.586E-02	0.3089	0.3546
100	0.755	0.400	295.7	1.732E+01	1.674E-02	1.921E-02	0.3743	0.4295
101	0.800	-0.250	349.4	1.418E+01	1.445E-02	1.672E-02	0.3232	0.3739
45	0.800	0.107	290.6	1.418E+01	1.363E-02	1.563E-02	0.3049	0.3496
56	0.800	0.250	305.1	1.483E+01	1.446E-02	1.662E-02	0.3234	0.3716
66	0.800	0.500	296.9	1.835E+01	1.775E-02	2.037E-02	0.3969	0.4556
70	0.800	0.600	318.7	2.019E+01	1.996E-02	2.298E-02	0.4462	0.5138
75	0.800	0.750	359.8	1.963E+01	2.022E-02	2.343E-02	0.4521	0.5239
102	0.886	0.732	292.5	1.801E+01	1.735E-02	1.990E-02	0.3879	0.4450
103	0.900	-0.107	308.4	1.180E+01	1.155E-02	1.328E-02	0.2582	0.2969
57	0.900	0.250	319.6	1.229E+01	1.216E-02	1.400E-02	0.2719	0.3131

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:07
DATE RECORDED: 9-JUN-95
TIME RECORDED: 18:25:19
000011199

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
131	S1R52	ZERO	29-O	8.00	711.2	1338.67	30.00	9.96	39.96	-0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
99.2	0.073	3.266	3907.	6.161E-05	7.984E-08	3.0154E+06	5.674E+06	4.486E-02	0.119

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	327.4	1.329E+01	1.314E-02	1.515E-02	0.2930	0.3377
6	0.060	0.000	279.7	9.319E+00	8.800E-03	1.007E-02	0.1962	0.2246
7	0.080	0.000	251.2	8.268E+00	7.602E-03	8.670E-03	0.1695	0.1933
8	0.100	0.000	240.7	7.725E+00	7.036E-03	8.013E-03	0.1568	0.1786
10	0.150	0.000	231.9	6.812E+00	6.154E-03	7.001E-03	0.1372	0.1561
16	0.192	0.000	274.1	1.281E+01	1.204E-02	1.377E-02	0.2683	0.3069
20	0.250	0.000	274.0	1.433E+01	1.346E-02	1.540E-02	0.3001	0.3432
23	0.300	0.000	262.2	1.317E+01	1.224E-02	1.398E-02	0.2728	0.3116
30	0.350	0.000	268.3	1.309E+01	1.223E-02	1.398E-02	0.2726	0.3116
31	0.400	0.000	264.1	1.331E+01	1.239E-02	1.415E-02	0.2761	0.3154
33	0.450	0.000	268.9	1.377E+01	1.287E-02	1.471E-02	0.2870	0.3280
34	0.500	0.000	266.5	1.371E+01	1.279E-02	1.461E-02	0.2851	0.3258
37	0.550	0.000	265.2	1.368E+01	1.274E-02	1.456E-02	0.2841	0.3245
38	0.600	0.000	273.7	1.458E+01	1.369E-02	1.566E-02	0.3052	0.3491
40	0.650	0.000	277.9	1.444E+01	1.361E-02	1.557E-02	0.3034	0.3472
41	0.700	0.000	277.0	1.481E+01	1.395E-02	1.596E-02	0.3110	0.3558
43	0.750	0.000	275.7	1.460E+01	1.374E-02	1.572E-02	0.3062	0.3504
46	0.850	0.000	283.4	1.425E+01	1.351E-02	1.547E-02	0.3011	0.3448
49	0.950	0.000	259.9	1.153E+01	1.069E-02	1.220E-02	0.2382	0.2720
86	0.125	0.055	244.2	7.969E+00	7.281E-03	8.295E-03	0.1623	0.1849
11	0.150	0.091	247.5	8.324E+00	7.628E-03	8.695E-03	0.1700	0.1938
17	0.192	0.107	276.2	9.111E+00	8.575E-03	9.811E-03	0.1912	0.2187
87	0.300	-0.106	272.6	1.403E+01	1.316E-02	1.505E-02	0.2934	0.3355
88	0.300	0.061	267.0	1.303E+01	1.216E-02	1.390E-02	0.2711	0.3098
89	0.300	0.122	281.2	1.417E+01	1.340E-02	1.534E-02	0.2988	0.3421
24	0.300	0.160	285.2	1.455E+01	1.381E-02	1.582E-02	0.3079	0.3527
25	0.300	0.221	294.4	1.377E+01	1.319E-02	1.513E-02	0.2940	0.3372
90	0.400	-0.107	279.8	1.396E+01	1.318E-02	1.509E-02	0.2938	0.3364
32	0.400	0.107	280.2	1.362E+01	1.287E-02	1.473E-02	0.2869	0.3284
52	0.400	0.250	302.7	1.322E+01	1.276E-02	1.466E-02	0.2845	0.3267
91	0.425	0.061	274.5	1.330E+01	1.250E-02	1.429E-02	0.2786	0.3187
92	0.425	0.178	288.2	1.363E+01	1.298E-02	1.487E-02	0.2893	0.3315
93	0.500	-0.107	273.4	1.353E+01	1.270E-02	1.453E-02	0.2832	0.3239
35	0.500	0.107	269.0	1.332E+01	1.246E-02	1.424E-02	0.2777	0.3174
94	0.500	0.178	282.7	1.378E+01	1.305E-02	1.494E-02	0.2908	0.3330
53	0.500	0.250	295.7	1.404E+01	1.347E-02	1.545E-02	0.3002	0.3444
95	0.600	-0.250	300.6	1.391E+01	1.340E-02	1.538E-02	0.2987	0.3430
39	0.600	0.107	284.1	1.454E+01	1.379E-02	1.579E-02	0.3074	0.3521

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:08
DATE RECORDED: 9-JUN-95
TIME RECORDED: 18:25:19
000011200

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
131	S1R52	ZERO	29-O	8.00	711.2	1338.67	30.00	9.96	39.96	0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
99.2	0.073	3.266	3907.	6.161E-05	7.984E-08	3.0154E+06	5.674E+06	4.486E-02	0.119

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	301.0	1.458E+01	1.405E-02	1.614E-02	0.3133	0.3597
98	0.660	-0.107	291.7	1.475E+01	1.409E-02	1.616E-02	0.3141	0.3602
96	0.660	0.107	286.3	1.463E+01	1.390E-02	1.592E-02	0.3098	0.3550
97	0.660	0.250	310.6	1.504E+01	1.463E-02	1.682E-02	0.3261	0.3749
60	0.660	0.400	340.5	1.734E+01	1.737E-02	2.006E-02	0.3873	0.4472
65	0.700	0.500	407.2	1.862E+01	1.999E-02	2.334E-02	0.4456	0.5204
99	0.750	0.178	293.9	1.411E+01	1.351E-02	1.549E-02	0.3011	0.3453
100	0.755	0.400	310.5	1.731E+01	1.683E-02	1.935E-02	0.3752	0.4314
101	0.800	-0.250	341.1	1.552E+01	1.556E-02	1.797E-02	0.3469	0.4006
45	0.800	0.107	288.6	1.441E+01	1.372E-02	1.573E-02	0.3059	0.3506
56	0.800	0.250	302.8	1.524E+01	1.472E-02	1.690E-02	0.3281	0.3767
66	0.800	0.500	317.2	1.802E+01	1.764E-02	2.031E-02	0.3933	0.4527
70	0.800	0.600	376.0	1.853E+01	1.925E-02	2.236E-02	0.4291	0.4984
75	0.800	0.750	453.4	1.707E+01	1.929E-02	2.272E-02	0.4300	0.5066
102	0.886	0.732	318.9	1.764E+01	1.730E-02	1.991E-02	0.3857	0.4439
103	0.900	-0.107	289.1	1.254E+01	1.195E-02	1.369E-02	0.2663	0.3052
57	0.900	0.250	295.8	1.318E+01	1.264E-02	1.450E-02	0.2818	0.3233

RUN 131

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:11
DATE RECORDED: 9-JUN-95
TIME RECORDED: 18:34:09
000011201

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
132	S1R32	ZERO	29-O	8.00	709.6	1341.67	30.00	4.93	34.93	-0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
99.5	0.073	3.258	3912	6.133E-05	8.003E-08	2.9976E+06	5.640E+06	4.483E-02	0.114

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	288.5	1.223E+01	1.161E-02	1.331E-02	0.2590	0.2969
6	0.060	0.000	251.2	8.647E+00	7.930E-03	9.043E-03	0.1769	0.2017
7	0.080	0.000	232.0	7.732E+00	6.968E-03	7.926E-03	0.1554	0.1768
8	0.100	0.000	220.0	6.985E+00	6.227E-03	7.073E-03	0.1389	0.1578
10	0.150	0.000	210.3	5.666E+00	5.008E-03	5.681E-03	0.1117	0.1267
16	0.192	0.000	203.0	5.276E+00	4.633E-03	5.252E-03	0.1034	0.1172
20	0.250	0.000	200.5	5.687E+00	4.983E-03	5.647E-03	0.1112	0.1260
23	0.300	0.000	195.7	5.417E+00	4.727E-03	5.354E-03	0.1055	0.1194
30	0.350	0.000	209.5	5.508E+00	4.865E-03	5.519E-03	0.1085	0.1231
31	0.400	0.000	227.6	8.081E+00	7.254E-03	8.247E-03	0.1618	0.1840
33	0.450	0.000	268.9	1.362E+01	1.270E-02	1.451E-02	0.2832	0.3237
34	0.500	0.000	266.1	1.324E+01	1.231E-02	1.407E-02	0.2747	0.3138
37	0.550	0.000	261.8	1.298E+01	1.202E-02	1.373E-02	0.2682	0.3062
38	0.600	0.000	265.6	1.370E+01	1.273E-02	1.455E-02	0.2841	0.3245
40	0.650	0.000	272.0	1.366E+01	1.277E-02	1.461E-02	0.2850	0.3259
41	0.700	0.000	279.4	1.373E+01	1.292E-02	1.479E-02	0.2883	0.3299
43	0.750	0.000	277.3	1.335E+01	1.254E-02	1.435E-02	0.2798	0.3202
46	0.850	0.000	276.3	1.300E+01	1.220E-02	1.396E-02	0.2722	0.3114
49	0.950	0.000	244.9	1.046E+01	9.536E-03	1.087E-02	0.2127	0.2424
86	0.125	0.055	228.6	7.107E+00	6.384E-03	7.259E-03	0.1424	0.1619
11	0.150	0.091	226.9	6.655E+00	5.969E-03	6.786E-03	0.1332	0.1514
17	0.192	0.107	248.8	6.043E+00	5.530E-03	6.304E-03	0.1234	0.1406
87	0.300	-0.106	208.0	5.729E+00	5.054E-03	5.732E-03	0.1127	0.1279
88	0.300	0.061	209.6	5.783E+00	5.109E-03	5.795E-03	0.1140	0.1293
89	0.300	0.122	225.3	6.901E+00	6.181E-03	7.026E-03	0.1379	0.1567
24	0.300	0.160	226.9	6.810E+00	6.109E-03	6.945E-03	0.1363	0.1549
25	0.300	0.221	240.6	6.666E+00	6.055E-03	6.895E-03	0.1351	0.1538
90	0.400	-0.107	220.8	4.906E+00	4.378E-03	4.973E-03	0.0977	0.1109
32	0.400	0.107	220.2	5.186E+00	4.624E-03	5.252E-03	0.1032	0.1172
52	0.400	0.250	248.1	5.645E+00	5.163E-03	5.884E-03	0.1152	0.1313
91	0.425	0.061	217.7	5.227E+00	4.650E-03	5.280E-03	0.1037	0.1178
92	0.425	0.178	247.0	5.964E+00	5.448E-03	6.209E-03	0.1215	0.1385
93	0.500	-0.107	244.5	7.386E+00	6.733E-03	7.671E-03	0.1502	0.1711
35	0.500	0.107	272.9	1.297E+01	1.213E-02	1.388E-02	0.2707	0.3095
94	0.500	0.178	259.0	6.906E+00	6.378E-03	7.280E-03	0.1423	0.1624
53	0.500	0.250	270.0	6.754E+00	6.303E-03	7.204E-03	0.1406	0.1607
95	0.600	-0.250	325.2	1.316E+01	1.294E-02	1.491E-02	0.2888	0.3327
39	0.600	0.107	279.0	1.374E+01	1.293E-02	1.479E-02	0.2884	0.3300

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:11
DATE RECORDED: 9-JUN-95
TIME RECORDED: 18:34:09
000011292

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA PREDICTED (DEG)	ALPHA SECTOR (DEG)	ALPHA MODEL (DEG)	[illegible]
132	S1R32	ZERO	29-0	8.00	709.6	1341.67	30.00	4.93	1.35	0.05

T	P	Q	V	RHO	MU	RE/FT	PEI	HREF	[illegible]
(DEGR)	(PSIA)	(PSIA)	(FT/SEC)	(SLUGS/FT3)	(LBF-SEC/FT2)	(FT-1)	(FT-LBF/SLUG)	(BTU/FT2-SEC-R)	
99.6	0.304	1.204	4911.	2.139E-03	3.041E-07	1.571E+06	2.401E+07	1.139E-02	0.1000

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	304.1	1.271E+01	1.225E-02	1.407E-02	0.2732	0.3138
98	0.660	-0.107	291.8	1.383E+01	1.317E-02	1.510E-02	0.2938	0.3368
96	0.660	0.107	286.3	1.393E+01	1.320E-02	1.512E-02	0.2944	0.3373
97	0.660	0.250	316.7	1.456E+01	1.420E-02	1.634E-02	0.3168	0.3646
60	0.660	0.400	347.9	1.027E+01	1.033E-02	1.194E-02	0.2305	0.2665
65	0.700	0.500	382.8	9.022E+00	9.408E-03	1.094E-02	0.2099	0.2440
99	0.750	0.178	299.8	1.346E+01	1.292E-02	1.483E-02	0.2883	0.3309
100	0.755	0.400	307.4	1.678E+01	1.622E-02	1.864E-02	0.3618	0.4158
101	0.800	-0.250	351.6	1.329E+01	1.343E-02	1.553E-02	0.2996	0.3465
45	0.800	0.107	286.4	1.303E+01	1.235E-02	1.415E-02	0.2754	0.3156
56	0.800	0.250	300.9	1.415E+01	1.360E-02	1.561E-02	0.3033	0.3482
66	0.800	0.500	292.7	1.686E+01	1.607E-02	1.843E-02	0.3586	0.4111
70	0.800	0.600	307.5	1.590E+01	1.537E-02	1.766E-02	0.3429	0.3940
75	0.800	0.750	333.4	9.923E+00	9.842E-03	1.135E-02	0.2196	0.2533
102	0.886	0.732	284.6	1.792E+01	1.695E-02	1.942E-02	0.3782	0.4332
103	0.900	-0.107	270.2	1.136E+01	1.060E-02	1.212E-02	0.2365	0.2703
57	0.900	0.250	284.6	1.204E+01	1.139E-02	1.304E-02	0.2540	0.2910

RUN 132

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:14
DATE RECORDED: 9-JUN-95
TIME RECORDED: 18:41:40
000011203

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
133	S1R54	ZERO	29-0	8.00	709.6	1338.67	30.00	9.97	39.97	-0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
99.2	0.073	3.259	3907	6.148E-05	7.984E-08	3.0086E+06	5.661E+06	4.481E-02	0.121

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	314.6	1.311E+01	1.280E-02	1.472E-02	0.2856	0.3286
6	0.060	0.000	271.2	8.998E+00	8.429E-03	9.638E-03	0.1881	0.2151
7	0.080	0.000	256.1	8.850E+00	8.175E-03	9.329E-03	0.1824	0.2082
8	0.100	0.000	239.9	7.540E+00	6.863E-03	7.815E-03	0.1531	0.1744
10	0.150	0.000	231.7	6.411E+00	5.792E-03	6.589E-03	0.1293	0.1470
16	0.192	0.000	224.0	5.974E+00	5.359E-03	6.090E-03	0.1196	0.1359
20	0.250	0.000	217.5	6.131E+00	5.469E-03	6.210E-03	0.1220	0.1386
23	0.300	0.000	219.3	6.516E+00	5.821E-03	6.612E-03	0.1299	0.1476
30	0.350	0.000	246.7	8.777E+00	8.038E-03	9.161E-03	0.1794	0.2044
31	0.400	0.000	264.9	1.281E+01	1.193E-02	1.363E-02	0.2663	0.3042
33	0.450	0.000	276.4	1.437E+01	1.353E-02	1.548E-02	0.3020	0.3455
34	0.500	0.000	272.7	1.405E+01	1.318E-02	1.507E-02	0.2940	0.3363
37	0.550	0.000	271.6	1.400E+01	1.312E-02	1.500E-02	0.2928	0.3348
38	0.600	0.000	279.9	1.454E+01	1.374E-02	1.572E-02	0.3065	0.3509
40	0.650	0.000	281.1	1.443E+01	1.365E-02	1.563E-02	0.3046	0.3487
41	0.700	0.000	277.3	1.472E+01	1.387E-02	1.587E-02	0.3095	0.3542
43	0.750	0.000	279.1	1.487E+01	1.403E-02	1.606E-02	0.3132	0.3585
46	0.850	0.000	288.0	1.422E+01	1.354E-02	1.552E-02	0.3021	0.3463
49	0.950	0.000	263.3	1.137E+01	1.058E-02	1.208E-02	0.2360	0.2696
86	0.125	0.055	242.7	7.607E+00	6.941E-03	7.906E-03	0.1549	0.1764
11	0.150	0.091	239.2	7.096E+00	6.454E-03	7.348E-03	0.1440	0.1640
17	0.192	0.107	259.8	6.752E+00	6.258E-03	7.145E-03	0.1397	0.1595
87	0.300	-0.106	226.6	6.439E+00	5.790E-03	6.582E-03	0.1292	0.1469
88	0.300	0.061	253.1	9.695E+00	8.931E-03	1.019E-02	0.1993	0.2273
89	0.300	0.122	268.3	1.098E+01	1.026E-02	1.172E-02	0.2289	0.2616
24	0.300	0.160	267.7	1.077E+01	1.005E-02	1.149E-02	0.2244	0.2564
25	0.300	0.221	269.8	9.357E+00	8.754E-03	1.001E-02	0.1954	0.2233
90	0.400	-0.107	228.4	5.481E+00	4.937E-03	5.613E-03	0.1102	0.1253
32	0.400	0.107	276.1	1.158E+01	1.090E-02	1.247E-02	0.2433	0.2784
52	0.400	0.250	295.0	1.102E+01	1.056E-02	1.212E-02	0.2357	0.2704
91	0.425	0.061	263.6	1.048E+01	9.748E-03	1.113E-02	0.2175	0.2485
92	0.425	0.178	284.2	1.205E+01	1.143E-02	1.309E-02	0.2551	0.2922
93	0.500	-0.107	283.7	1.378E+01	1.306E-02	1.496E-02	0.2915	0.3339
35	0.500	0.107	275.5	1.365E+01	1.284E-02	1.469E-02	0.2865	0.3278
94	0.500	0.178	286.4	1.321E+01	1.255E-02	1.438E-02	0.2801	0.3209
53	0.500	0.250	295.5	1.297E+01	1.244E-02	1.427E-02	0.2775	0.3184
95	0.600	-0.250	321.1	1.374E+01	1.350E-02	1.554E-02	0.3013	0.3469
39	0.600	0.107	297.9	1.580E+01	1.518E-02	1.742E-02	0.3387	0.3887

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:14
DATE RECORDED: 9-JUN-95
TIME RECORDED: 18:41:49
000011204

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
133	S1R54	ZERO	29-O	8.00	709.6	1338.67	30.00	9.97	39.97	-0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
99.2	0.073	3.259	3907.	6.148E-05	7.984E-08	3.0086E+06	5.661E+06	4.481E-02	0.121

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	303.9	1.418E+01	1.370E-02	1.574E-02	0.3058	0.3513
98	0.660	-0.107	296.1	1.456E+01	1.396E-02	1.602E-02	0.3116	0.3575
96	0.660	0.107	288.4	1.455E+01	1.385E-02	1.587E-02	0.3091	0.3543
97	0.660	0.250	310.1	1.487E+01	1.446E-02	1.663E-02	0.3227	0.3710
60	0.660	0.400	329.8	1.889E+01	1.872E-02	2.159E-02	0.4179	0.4818
65	0.700	0.500	352.3	2.006E+01	2.034E-02	2.353E-02	0.4538	0.5251
99	0.750	0.178	298.3	1.478E+01	1.420E-02	1.630E-02	0.3170	0.3638
100	0.755	0.400	297.3	1.799E+01	1.727E-02	1.982E-02	0.3855	0.4424
101	0.800	-0.250	344.6	1.473E+01	1.482E-02	1.713E-02	0.3307	0.3822
45	0.800	0.107	288.8	1.432E+01	1.364E-02	1.564E-02	0.3045	0.3490
56	0.800	0.250	300.1	1.493E+01	1.437E-02	1.650E-02	0.3207	0.3682
66	0.800	0.500	294.0	1.843E+01	1.764E-02	2.023E-02	0.3936	0.4515
70	0.800	0.600	322.2	2.020E+01	1.987E-02	2.288E-02	0.4435	0.5107
75	0.800	0.750	382.8	1.836E+01	1.921E-02	2.234E-02	0.4288	0.4986
102	0.886	0.732	299.0	1.792E+01	1.724E-02	1.979E-02	0.3847	0.4416
103	0.900	-0.107	294.9	1.258E+01	1.205E-02	1.382E-02	0.2689	0.3085
57	0.900	0.250	303.5	1.341E+01	1.296E-02	1.488E-02	0.2892	0.3321

RUN 133

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:18
DATE RECORDED: 9-JUN-95
TIME RECORDED: 19:02:06
000011205

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
134	S1R34	ZERO	29-0	7.99	574.8	1318.67	30.00	9.99	39.99	-0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.8	0.059	2.650	3874.	5.084E-05	7.873E-08	2.5019E+06	4.708E+06	4.030E-02	0.126

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	290.8	1.111E+01	1.081E-02	1.240E-02	0.2681	0.3076
6	0.060	0.000	261.0	7.972E+00	7.537E-03	8.611E-03	0.1870	0.2136
7	0.080	0.000	248.7	7.765E+00	7.257E-03	8.277E-03	0.1801	0.2054
8	0.100	0.000	233.7	6.314E+00	5.819E-03	6.624E-03	0.1444	0.1644
10	0.150	0.000	232.1	5.802E+00	5.340E-03	6.078E-03	0.1325	0.1508
16	0.192	0.000	220.5	4.999E+00	4.552E-03	5.173E-03	0.1129	0.1283
20	0.250	0.000	211.2	5.402E+00	4.878E-03	5.538E-03	0.1210	0.1374
23	0.300	0.000	207.6	5.383E+00	4.844E-03	5.497E-03	0.1202	0.1364
30	0.350	0.000	214.6	4.935E+00	4.470E-03	5.076E-03	0.1109	0.1260
31	0.400	0.000	217.9	5.998E+00	5.449E-03	6.190E-03	0.1352	0.1536
33	0.450	0.000	256.8	1.075E+01	1.012E-02	1.156E-02	0.2512	0.2868
34	0.500	0.000	263.2	1.214E+01	1.151E-02	1.315E-02	0.2855	0.3262
37	0.550	0.000	261.8	1.221E+01	1.156E-02	1.321E-02	0.2868	0.3277
38	0.600	0.000	261.4	1.235E+01	1.168E-02	1.334E-02	0.2897	0.3310
40	0.650	0.000	267.1	1.242E+01	1.181E-02	1.350E-02	0.2930	0.3350
41	0.700	0.000	263.8	1.243E+01	1.178E-02	1.346E-02	0.2923	0.3340
43	0.750	0.000	261.6	1.218E+01	1.152E-02	1.317E-02	0.2859	0.3267
46	0.850	0.000	265.4	1.200E+01	1.139E-02	1.302E-02	0.2826	0.3231
49	0.950	0.000	243.7	9.933E+00	9.240E-03	1.053E-02	0.2293	0.2613
86	0.125	0.055	241.9	6.716E+00	6.237E-03	7.108E-03	0.1548	0.1764
11	0.150	0.091	240.5	6.185E+00	5.736E-03	6.536E-03	0.1423	0.1622
17	0.192	0.107	262.4	5.456E+00	5.166E-03	5.903E-03	0.1282	0.1465
87	0.300	-0.106	219.8	5.579E+00	5.077E-03	5.770E-03	0.1260	0.1432
88	0.300	0.061	217.1	5.463E+00	4.959E-03	5.633E-03	0.1230	0.1398
89	0.300	0.122	229.1	6.267E+00	5.751E-03	6.543E-03	0.1427	0.1624
24	0.300	0.160	235.3	6.834E+00	6.308E-03	7.183E-03	0.1565	0.1782
25	0.300	0.221	245.4	6.217E+00	5.793E-03	6.604E-03	0.1437	0.1639
90	0.400	-0.107	226.1	4.742E+00	4.340E-03	4.936E-03	0.1077	0.1225
32	0.400	0.107	228.5	4.974E+00	4.563E-03	5.191E-03	0.1132	0.1288
52	0.400	0.250	251.7	5.508E+00	5.162E-03	5.890E-03	0.1281	0.1461
91	0.425	0.061	224.6	4.747E+00	4.338E-03	4.933E-03	0.1076	0.1224
92	0.425	0.178	237.9	5.355E+00	4.955E-03	5.644E-03	0.1229	0.1400
93	0.500	-0.107	244.9	7.043E+00	6.560E-03	7.478E-03	0.1628	0.1855
35	0.500	0.107	258.3	1.013E+01	9.553E-03	1.091E-02	0.2370	0.2707
94	0.500	0.178	244.3	5.314E+00	4.947E-03	5.639E-03	0.1227	0.1399
53	0.500	0.250	254.5	5.337E+00	5.015E-03	5.724E-03	0.1244	0.1420
95	0.600	-0.250	289.1	4.589E+00	4.457E-03	5.112E-03	0.1106	0.1268
39	0.600	0.107	274.3	1.195E+01	1.144E-02	1.309E-02	0.2838	0.3248

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:18
DATE RECORDED: 9-JUN-95
TIME RECORDED: 19:02:06
000011206

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
134	S1R34	ZERO	29-O	7.99	574.8	1318.67	30.00	9.99	39.99	-0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.8	0.059	2.650	3874	5.084E-05	7.873E-08	2.5019E+06	4.708E+06	1.030F 02	0.126

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	283.6	7.685E+00	7.425E-03	8.509E-03	0.1842	0.2111
98	0.660	-0.107	282.0	1.230E+01	1.186E-02	1.359E-02	0.2943	0.3372
96	0.660	0.107	277.9	1.265E+01	1.216E-02	1.392E-02	0.3017	0.3455
97	0.660	0.250	303.8	1.308E+01	1.288E-02	1.481E-02	0.3197	0.3674
60	0.660	0.400	306.2	8.328E+00	8.226E-03	9.457E-03	0.2041	0.2347
65	0.700	0.500	300.5	6.812E+00	6.690E-03	7.686E-03	0.1660	0.1907
99	0.750	0.178	281.7	1.213E+01	1.169E-02	1.340E-02	0.2902	0.3324
100	0.755	0.400	271.1	1.378E+01	1.315E-02	1.504E-02	0.3263	0.3733
101	0.800	-0.250	335.5	1.223E+01	1.244E-02	1.436E-02	0.3086	0.3564
45	0.800	0.107	271.6	1.202E+01	1.148E-02	1.314E-02	0.2849	0.3259
56	0.800	0.250	283.1	1.266E+01	1.223E-02	1.401E-02	0.3034	0.3477
66	0.800	0.500	272.5	1.616E+01	1.545E-02	1.767E-02	0.3832	0.4385
70	0.800	0.600	265.9	1.300E+01	1.235E-02	1.412E-02	0.3065	0.3504
75	0.800	0.750	266.7	9.943E+00	9.452E-03	1.081E-02	0.2345	0.2681
102	0.886	0.732	263.6	1.506E+01	1.427E-02	1.631E-02	0.3541	0.4047
103	0.900	-0.107	263.3	1.041E+01	9.868E-03	1.128E-02	0.2448	0.2798
57	0.900	0.250	276.4	1.114E+01	1.069E-02	1.224E-02	0.2652	0.3036

RUN 134

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:21
DATE RECORDED: 9-JUN-95
TIME RECORDED: 19:45:43
00001120?

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
135	S1R46	ZERO	29-0	7.93	209.6	1236.67	30.00	9.98	39.98	-0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.5	0.022	0.991	3740	2.040E-05	7.440E-08	1.0253E+06	1.929E+06	2.437E-02	0.142

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	250.3	6.315E+00	6.402E-03	7.320E-03	0.2627	0.3003
6	0.060	0.000	238.1	4.704E+00	4.711E-03	5.377E-03	0.1933	0.2206
7	0.080	0.000	235.6	4.821E+00	4.816E-03	5.495E-03	0.1976	0.2254
8	0.100	0.000	227.3	4.240E+00	4.201E-03	4.787E-03	0.1723	0.1964
10	0.150	0.000	222.6	3.653E+00	3.603E-03	4.103E-03	0.1478	0.1683
16	0.192	0.000	220.2	3.439E+00	3.384E-03	3.852E-03	0.1388	0.1580
20	0.250	0.000	203.4	3.480E+00	3.368E-03	3.826E-03	0.1382	0.1570
23	0.300	0.000	194.9	3.223E+00	3.093E-03	3.510E-03	0.1269	0.1440
30	0.350	0.000	206.8	2.974E+00	2.887E-03	3.281E-03	0.1185	0.1346
31	0.400	0.000	207.4	4.053E+00	3.938E-03	4.476E-03	0.1616	0.1836
33	0.450	0.000	211.8	4.381E+00	4.274E-03	4.861E-03	0.1754	0.1994
34	0.500	0.000	218.7	5.378E+00	5.283E-03	6.014E-03	0.2168	0.2467
37	0.550	0.000	220.1	5.529E+00	5.438E-03	6.192E-03	0.2231	0.2540
38	0.600	0.000	221.0	6.042E+00	5.949E-03	6.774E-03	0.2441	0.2779
40	0.650	0.000	228.2	5.915E+00	5.865E-03	6.685E-03	0.2406	0.2743
41	0.700	0.000	231.1	5.960E+00	5.927E-03	6.758E-03	0.2432	0.2773
43	0.750	0.000	231.7	5.525E+00	5.498E-03	6.269E-03	0.2256	0.2572
46	0.850	0.000	221.6	5.434E+00	5.353E-03	6.096E-03	0.2196	0.2501
49	0.950	0.000	238.2	4.135E+00	4.141E-03	4.727E-03	0.1699	0.1939
86	0.125	0.055	229.3	4.710E+00	4.676E-03	5.330E-03	0.1918	0.2187
11	0.150	0.091	233.1	4.238E+00	4.223E-03	4.817E-03	0.1733	0.1976
17	0.192	0.107	271.7	3.371E+00	3.494E-03	4.007E-03	0.1433	0.1644
87	0.300	-0.106	229.6	3.465E+00	3.441E-03	3.922E-03	0.1412	0.1609
88	0.300	0.061	202.3	3.169E+00	3.064E-03	3.480E-03	0.1257	0.1428
89	0.300	0.122	216.2	3.645E+00	3.572E-03	4.064E-03	0.1465	0.1668
24	0.300	0.160	223.9	3.738E+00	3.691E-03	4.204E-03	0.1514	0.1725
25	0.300	0.221	249.1	3.682E+00	3.729E-03	4.262E-03	0.1530	0.1749
90	0.400	-0.107	227.8	2.880E+00	2.855E-03	3.254E-03	0.1171	0.1335
32	0.400	0.107	214.9	2.611E+00	2.555E-03	2.907E-03	0.1048	0.1193
52	0.400	0.250	253.7	3.256E+00	3.312E-03	3.789E-03	0.1359	0.1554
91	0.425	0.061	216.5	2.771E+00	2.716E-03	3.091E-03	0.1114	0.1268
92	0.425	0.178	239.3	3.274E+00	3.283E-03	3.748E-03	0.1347	0.1538
93	0.500	-0.107	222.4	2.619E+00	2.583E-03	2.941E-03	0.1060	0.1207
35	0.500	0.107	229.2	3.028E+00	3.006E-03	3.426E-03	0.1233	0.1406
94	0.500	0.178	263.0	3.300E+00	3.389E-03	3.882E-03	0.1391	0.1593
53	0.500	0.250	299.7	3.057E+00	3.262E-03	3.758E-03	0.1338	0.1542
95	0.600	-0.250	315.5	2.396E+00	2.601E-03	3.004E-03	0.1067	0.1232
39	0.600	0.107	233.7	2.841E+00	2.833E-03	3.231E-03	0.1162	0.1326

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:21
DATE RECORDED: 9-JUN-95
TIME RECORDED: 19:45:43
000011208

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
135	S1R46	ZERO	29-O	7.93	209.6	1236.67	30.00	9.98	39.98	-0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.5	0.022	0.991	3740.	2.040E-05	7.440E-08	1.0253E+06	1.929E+06	2.437E-02	0.142

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	313.3	3.618E+00	3.918E-03	4.523E-03	0.1607	0.1856
98	0.660	-0.107	260.4	4.087E+00	4.186E-03	4.794E-03	0.1718	0.1967
96	0.660	0.107	236.7	3.099E+00	3.099E-03	3.536E-03	0.1271	0.1451
97	0.660	0.250	311.1	5.777E+00	6.242E-03	7.204E-03	0.2561	0.2956
60	0.660	0.400	354.4	3.528E+00	3.999E-03	4.651E-03	0.1641	0.1908
65	0.700	0.500	325.4	4.100E+00	4.499E-03	5.206E-03	0.1846	0.2136
99	0.750	0.178	304.0	4.556E+00	4.885E-03	5.632E-03	0.2004	0.2310
100	0.755	0.400	249.1	5.018E+00	5.082E-03	5.809E-03	0.2085	0.2383
101	0.800	-0.250	313.5	1.885E+00	2.042E-03	2.357E-03	0.0838	0.0967
45	0.800	0.107	254.8	5.303E+00	5.401E-03	6.179E-03	0.2216	0.2535
56	0.800	0.250	299.2	5.043E+00	5.379E-03	6.196E-03	0.2207	0.2542
66	0.800	0.500	209.8	5.583E+00	5.437E-03	6.181E-03	0.2231	0.2536
70	0.800	0.600	204.7	5.480E+00	5.310E-03	6.033E-03	0.2179	0.2475
75	0.800	0.750	236.1	4.328E+00	4.325E-03	4.935E-03	0.1775	0.2025
102	0.886	0.732	225.6	4.481E+00	4.432E-03	5.050E-03	0.1818	0.2072
103	0.900	-0.107	237.3	4.593E+00	4.596E-03	5.245E-03	0.1886	0.2152
57	0.900	0.250	269.2	4.734E+00	4.893E-03	5.611E-03	0.2008	0.2302

RUN 135

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06 09 25
DATE RECORDED: 9-JUN-95
TIME RECORDED: 19:52.57
000011209

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
136	S1R56	ZERO	29-0	7.93	208.0	1237.67	30.00	9.98	39.98	-0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.5	0.022	0.983	3742.	2.023E-05	7.447E-08	1.0163E+06	1.912E+06	2.429E-02	0.139

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	288.9	6.762E+00	7.127E-03	8.196E-03	0.2934	0.3375
6	0.060	0.000	276.4	5.065E+00	5.270E-03	6.048E-03	0.2170	0.2490
7	0.080	0.000	266.5	4.866E+00	5.011E-03	5.743E-03	0.2063	0.2365
8	0.100	0.000	247.7	4.221E+00	4.264E-03	4.873E-03	0.1756	0.2007
10	0.150	0.000	226.9	3.724E+00	3.684E-03	4.198E-03	0.1517	0.1729
16	0.192	0.000	216.8	3.443E+00	3.373E-03	3.838E-03	0.1389	0.1580
20	0.250	0.000	199.6	3.285E+00	3.165E-03	3.593E-03	0.1303	0.1479
23	0.300	0.000	190.7	3.080E+00	2.942E-03	3.336E-03	0.1211	0.1374
30	0.350	0.000	201.4	2.877E+00	2.776E-03	3.153E-03	0.1143	0.1298
31	0.400	0.000	192.3	2.866E+00	2.741E-03	3.110E-03	0.1129	0.1280
33	0.450	0.000	195.2	2.775E+00	2.663E-03	3.021E-03	0.1096	0.1244
34	0.500	0.000	193.7	2.770E+00	2.653E-03	3.010E-03	0.1092	0.1239
37	0.550	0.000	194.2	2.930E+00	2.808E-03	3.186E-03	0.1156	0.1312
38	0.600	0.000	200.0	3.790E+00	3.652E-03	4.147E-03	0.1504	0.1708
40	0.650	0.000	212.5	4.649E+00	4.535E-03	5.157E-03	0.1867	0.2124
41	0.700	0.000	213.4	5.293E+00	5.168E-03	5.879E-03	0.2128	0.2420
43	0.750	0.000	218.9	5.503E+00	5.401E-03	6.148E-03	0.2224	0.2532
46	0.850	0.000	225.9	5.684E+00	5.618E-03	6.401E-03	0.2313	0.2636
49	0.950	0.000	247.9	4.297E+00	4.341E-03	4.962E-03	0.1788	0.2043
86	0.125	0.055	242.6	4.896E+00	4.921E-03	5.620E-03	0.2026	0.2314
11	0.150	0.091	232.2	4.002E+00	3.980E-03	4.539E-03	0.1639	0.1869
17	0.192	0.107	260.9	3.549E+00	3.633E-03	4.161E-03	0.1496	0.1713
87	0.300	-0.106	221.4	3.538E+00	3.482E-03	3.965E-03	0.1434	0.1632
88	0.300	0.061	199.2	3.124E+00	3.008E-03	3.415E-03	0.1239	0.1406
89	0.300	0.122	212.6	3.591E+00	3.503E-03	3.984E-03	0.1442	0.1640
24	0.300	0.160	220.1	3.850E+00	3.784E-03	4.308E-03	0.1558	0.1774
25	0.300	0.221	243.1	3.653E+00	3.673E-03	4.195E-03	0.1512	0.1727
90	0.400	-0.107	213.8	2.900E+00	2.832E-03	3.222E-03	0.1166	0.1326
32	0.400	0.107	214.1	2.746E+00	2.683E-03	3.052E-03	0.1105	0.1257
52	0.400	0.250	258.7	3.113E+00	3.180E-03	3.640E-03	0.1309	0.1499
91	0.425	0.061	209.9	2.678E+00	2.605E-03	2.962E-03	0.1073	0.1220
92	0.425	0.178	235.3	2.973E+00	2.966E-03	3.384E-03	0.1221	0.1393
93	0.500	-0.107	208.3	2.510E+00	2.438E-03	2.771E-03	0.1004	0.1141
35	0.500	0.107	212.1	2.449E+00	2.388E-03	2.716E-03	0.0983	0.1118
94	0.500	0.178	241.6	3.481E+00	3.495E-03	3.991E-03	0.1439	0.1643
53	0.500	0.250	262.7	2.872E+00	2.946E-03	3.375E-03	0.1213	0.1390
95	0.600	-0.250	267.7	2.627E+00	2.708E-03	3.105E-03	0.1115	0.1278
39	0.600	0.107	216.5	2.758E+00	2.700E-03	3.073E-03	0.1112	0.1265

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:25
DATE RECORDED: 9-JUN-95
TIME RECORDED: 19:52.57
000011210

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
136	S1R56	ZERO	29-0	7.93	208.0	1237.67	30.00	9.98	39.98	-0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
92.5	0.022	0.983	3742.	2.023E-05	7.447E-08	1.0163E+06	1.912E+06	2.429E-02	0.139

CO-AXIAL DATA

CAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	258.0	3.521E+00	3.594E-03	4.114E-03	0.1480	0.1694
98	0.660	-0.107	231.3	3.280E+00	3.259E-03	3.716E-03	0.1342	0.1530
96	0.660	0.107	214.7	2.977E+00	2.910E-03	3.311E-03	0.1198	0.1363
97	0.660	0.250	256.9	6.053E+00	6.172E-03	7.063E-03	0.2541	0.2908
60	0.660	0.400	249.1	3.801E+00	3.845E-03	4.395E-03	0.1583	0.1810
65	0.700	0.500	265.7	3.943E+00	4.057E-03	4.649E-03	0.1671	0.1914
99	0.750	0.178	234.6	2.307E+00	2.300E-03	2.624E-03	0.0947	0.1080
100	0.755	0.400	205.3	3.870E+00	3.749E-03	4.259E-03	0.1543	0.1754
101	0.800	-0.250	283.8	2.065E+00	2.164E-03	2.487E-03	0.0891	0.1024
45	0.800	0.107	226.5	2.173E+00	2.149E-03	2.449E-03	0.0885	0.1008
56	0.800	0.250	266.7	5.428E+00	5.590E-03	6.407E-03	0.2302	0.2638
66	0.800	0.500	199.7	3.985E+00	3.840E-03	4.360E-03	0.1581	0.1795
70	0.800	0.600	211.1	3.990E+00	3.887E-03	4.419E-03	0.1600	0.1820
75	0.800	0.750	289.8	3.248E+00	3.426E-03	3.941E-03	0.1411	0.1623
102	0.886	0.732	228.9	3.444E+00	3.414E-03	3.891E-03	0.1406	0.1602
103	0.900	-0.107	240.3	4.655E+00	4.668E-03	5.329E-03	0.1922	0.2194
57	0.900	0.250	277.2	4.566E+00	4.754E-03	5.457E-03	0.1957	0.2247

RUN 136

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:29
DATE RECORDED: 9-JUN-95
TIME RECORDED: 20:17.41
000011211

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
137	S1R58	ZERO	29-0	7.92	152.5	1214.67	30.00	9.98	39.98	-0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
91.1	0.017	0.727	3704	1.527E-05	7.329E-08	7.7161E+05	1.452E+06	2.082E-02	0.145

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	258.2	5.993E+00	6.265E-03	7.177E-03	0.3009	0.3447
6	0.060	0.000	246.2	4.537E+00	4.685E-03	5.357E-03	0.2250	0.2573
7	0.080	0.000	236.3	4.521E+00	4.620E-03	5.275E-03	0.2219	0.2534
8	0.100	0.000	230.5	3.904E+00	3.967E-03	4.526E-03	0.1905	0.2174
10	0.150	0.000	224.5	3.398E+00	3.432E-03	3.912E-03	0.1648	0.1879
16	0.192	0.000	220.0	3.207E+00	3.224E-03	3.673E-03	0.1549	0.1764
20	0.250	0.000	217.3	3.038E+00	2.998E-03	3.407E-03	0.1440	0.1636
23	0.300	0.000	191.5	2.792E+00	2.728E-03	3.096E-03	0.1310	0.1487
30	0.350	0.000	203.0	2.598E+00	2.568E-03	2.918E-03	0.1233	0.1402
31	0.400	0.000	190.0	2.494E+00	2.434E-03	2.761E-03	0.1169	0.1326
33	0.450	0.000	189.6	2.380E+00	2.322E-03	2.634E-03	0.1115	0.1265
34	0.500	0.000	186.9	2.385E+00	2.321E-03	2.632E-03	0.1115	0.1264
37	0.550	0.000	188.8	2.422E+00	2.361E-03	2.678E-03	0.1134	0.1286
38	0.600	0.000	192.4	2.709E+00	2.650E-03	3.008E-03	0.1273	0.1445
40	0.650	0.000	193.1	2.385E+00	2.335E-03	2.650E-03	0.1121	0.1273
41	0.700	0.000	189.3	2.539E+00	2.476E-03	2.809E-03	0.1189	0.1349
43	0.750	0.000	195.7	2.261E+00	2.219E-03	2.520E-03	0.1066	0.1210
46	0.850	0.000	201.2	1.985E+00	1.959E-03	2.225E-03	0.0941	0.1069
49	0.950	0.000	235.1	1.912E+00	1.951E-03	2.228E-03	0.0937	0.1070
86	0.125	0.055	230.6	4.143E+00	4.210E-03	4.803E-03	0.2022	0.2307
11	0.150	0.091	235.5	3.677E+00	3.755E-03	4.287E-03	0.1804	0.2059
17	0.192	0.107	274.1	3.076E+00	3.270E-03	3.755E-03	0.1571	0.1804
87	0.300	-0.106	233.5	3.100E+00	3.159E-03	3.606E-03	0.1517	0.1732
88	0.300	0.061	198.5	2.811E+00	2.766E-03	3.141E-03	0.1328	0.1509
89	0.300	0.122	214.2	3.236E+00	3.235E-03	3.682E-03	0.1554	0.1768
24	0.300	0.160	224.1	3.343E+00	3.375E-03	3.847E-03	0.1621	0.1848
25	0.300	0.221	253.8	3.116E+00	3.243E-03	3.712E-03	0.1557	0.1783
90	0.400	-0.107	215.4	2.495E+00	2.497E-03	2.842E-03	0.1199	0.1365
32	0.400	0.107	210.9	2.403E+00	2.394E-03	2.723E-03	0.1150	0.1308
52	0.400	0.250	243.6	2.876E+00	2.961E-03	3.385E-03	0.1422	0.1626
91	0.425	0.061	206.8	2.184E+00	2.167E-03	2.464E-03	0.1041	0.1183
92	0.425	0.178	222.0	2.630E+00	2.649E-03	3.018E-03	0.1272	0.1450
93	0.500	-0.107	198.4	2.210E+00	2.175E-03	2.470E-03	0.1044	0.1186
35	0.500	0.107	201.0	2.108E+00	2.079E-03	2.362E-03	0.0999	0.1135
94	0.500	0.178	214.9	2.512E+00	2.513E-03	2.860E-03	0.1207	0.1374
53	0.500	0.250	226.0	2.715E+00	2.746E-03	3.130E-03	0.1319	0.1504
95	0.600	-0.250	241.9	2.349E+00	2.415E-03	2.759E-03	0.1160	0.1325
39	0.600	0.107	213.5	2.348E+00	2.345E-03	2.669E-03	0.1126	0.1282

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:29
DATE RECORDED: 9-JUN-95
TIME RECORDED: 20:17:41
000011212

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
137	S1R58	ZERO	29-O	7.92	152.5	1214.67	30.00	9.98	39.98	-0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
91.1	0.017	0.727	3704.	1.527E-05	7.329E-08	7.7161E+05	1.452E+06	2.082E-02	0.145

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	235.6	2.446E+00	2.498E-03	2.852E-03	0.1200	0.1370
98	0.660	-0.107	207.8	2.207E+00	2.192E-03	2.492E-03	0.1053	0.1197
96	0.660	0.107	205.4	2.441E+00	2.419E-03	2.750E-03	0.1162	0.1321
97	0.660	0.250	231.3	2.208E+00	2.245E-03	2.562E-03	0.1078	0.1230
60	0.660	0.400	255.0	2.922E+00	3.045E-03	3.486E-03	0.1462	0.1674
65	0.700	0.509	307.0	2.343E+00	2.581E-03	2.980E-03	0.1240	0.1431
99	0.750	0.178	241.6	1.707E+00	1.754E-03	2.005E-03	0.0843	0.0963
100	0.755	0.400	229.8	2.187E+00	2.221E-03	2.534E-03	0.1067	0.1217
101	0.800	-0.250	280.5	1.774E+00	1.900E-03	2.184E-03	0.0912	0.1049
45	0.800	0.107	224.5	1.964E+00	1.984E-03	2.261E-03	0.0953	0.1086
56	0.800	0.250	280.4	1.229E+00	1.316E-03	1.512E-03	0.0632	0.0726
66	0.800	0.500	211.6	2.961E+00	2.952E-03	3.358E-03	0.1418	0.1613
70	0.800	0.600	207.4	3.506E+00	3.481E-03	3.959E-03	0.1672	0.1901
75	0.800	0.750	265.4	3.196E+00	3.366E-03	3.860E-03	0.1617	0.1854
102	0.886	0.732	218.2	2.979E+00	2.989E-03	3.404E-03	0.1436	0.1635
103	0.900	-0.107	220.9	1.711E+00	1.722E-03	1.962E-03	0.0827	0.0942
57	0.900	0.250	270.4	1.958E+00	2.073E-03	2.379E-03	0.0996	0.1143

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06 09 32
DATE RECORDED: 9-JUN-95
TIME RECORDED: 20:52 17
00001121 3

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
138	S6R 1	C-4	29-O	7.98	459.2	1319.67	30.00	-10.06	40.06	179.94

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.048	2.126	3874.	4.080E-05	7.900E-08	2.0009E+06	3.765E+06	3.611E-02	0.370

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	571.5	8.236E+00	1.101E-02	1.337E-02	0.3049	0.3702
6	0.060	0.000	560.6	6.385E+00	8.412E-03	1.018E-02	0.2329	0.2820
7	0.080	0.000	549.0	5.464E+00	7.089E-03	8.554E-03	0.1963	0.2369
8	0.100	0.000	539.9	5.135E+00	6.585E-03	7.927E-03	0.1824	0.2195
10	0.150	0.000	524.2	4.223E+00	5.309E-03	6.365E-03	0.1470	0.1763
16	0.192	0.000	514.0	3.670E+00	4.555E-03	5.447E-03	0.1261	0.1509
20	0.250	0.000	510.8	3.593E+00	4.441E-03	5.307E-03	0.1230	0.1470
23	0.300	0.000	504.4	3.423E+00	4.198E-03	5.009E-03	0.1163	0.1387
30	0.350	0.000	504.6	3.198E+00	3.924E-03	4.682E-03	0.1087	0.1296
31	0.400	0.000	501.6	2.924E+00	3.574E-03	4.261E-03	0.0990	0.1180
33	0.450	0.000	504.5	2.880E+00	3.534E-03	4.216E-03	0.0979	0.1168
34	0.500	0.000	505.9	2.928E+00	3.597E-03	4.294E-03	0.0996	0.1189
37	0.550	0.000	505.5	2.705E+00	3.322E-03	3.965E-03	0.0920	0.1098
38	0.600	0.000	509.2	2.881E+00	3.554E-03	4.246E-03	0.0984	0.1176
40	0.650	0.000	510.9	2.684E+00	3.319E-03	3.966E-03	0.0919	0.1098
41	0.700	0.000	513.7	2.714E+00	3.367E-03	4.026E-03	0.0932	0.1115
43	0.750	0.000	513.3	2.776E+00	3.443E-03	4.117E-03	0.0953	0.1140
46	0.850	0.000	523.5	3.103E+00	3.897E-03	4.671E-03	0.1079	0.1294
49	0.950	0.000	526.1	3.528E+00	4.446E-03	5.333E-03	0.1231	0.1477
86	0.125	0.055	541.3	6.581E+00	8.456E-03	1.018E-02	0.2342	0.2820
11	0.150	0.091	527.8	5.457E+00	6.891E-03	8.269E-03	0.1908	0.2290
17	0.192	0.107	524.6	5.235E+00	6.584E-03	7.895E-03	0.1823	0.2186
87	0.300	-0.106	505.9	4.041E+00	4.965E-03	5.926E-03	0.1375	0.1641
88	0.300	0.061	508.1	3.656E+00	4.504E-03	5.379E-03	0.1247	0.1490
89	0.300	0.122	509.9	4.277E+00	5.282E-03	6.310E-03	0.1463	0.1747
24	0.300	0.160	509.0	4.661E+00	5.750E-03	6.868E-03	0.1592	0.1902
25	0.300	0.221	511.5	5.445E+00	6.737E-03	8.052E-03	0.1866	0.2230
90	0.400	-0.107	503.6	3.347E+00	4.101E-03	4.892E-03	0.1136	0.1355
32	0.400	0.107	503.3	3.165E+00	3.877E-03	4.625E-03	0.1074	0.1281
52	0.400	0.250	508.6	4.190E+00	5.166E-03	6.170E-03	0.1431	0.1709
91	0.425	0.061	504.8	3.089E+00	3.790E-03	4.523E-03	0.1050	0.1253
92	0.425	0.178	506.0	3.790E+00	4.658E-03	5.560E-03	0.1290	0.1540
93	0.500	-0.107	505.0	2.721E+00	3.339E-03	3.985E-03	0.0925	0.1104
35	0.500	0.107	502.4	2.612E+00	3.196E-03	3.811E-03	0.0885	0.1055
94	0.500	0.178	507.4	3.421E+00	4.212E-03	5.029E-03	0.1166	0.1393
53	0.500	0.250	510.2	3.785E+00	4.676E-03	5.587E-03	0.1295	0.1547
95	0.600	-0.250	508.6	2.848E+00	3.511E-03	4.194E-03	0.0972	0.1161
39	0.600	0.107	507.5	2.718E+00	3.347E-03	3.996E-03	0.0927	0.1107

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:32
DATE RECORDED: 9-JUN-95
TIME RECORDED: 20:52:17
000011214

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
138	SER 1	C-4	29-O	7.98	459.2	1319.67	30.00	-10.06	40.06	179.94

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.048	2.126	3874	4.080E-05	7.900E-08	2.0009E+06	3.765E+06	3.611E-02	0.370

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	509.4	2.945E+00	3.635E-03	4.342E-03	0.1007	0.1203
98	0.660	-0.107	510.7	2.760E+00	3.412E-03	4.077E-03	0.0945	0.1129
96	0.660	0.107	512.2	3.110E+00	3.851E-03	4.603E-03	0.1066	0.1275
97	0.660	0.250	513.6	2.581E+00	3.202E-03	3.829E-03	0.0887	0.1060
60	0.660	0.400	523.8	3.918E+00	4.923E-03	5.902E-03	0.1363	0.1634
65	0.700	0.500	540.1	4.804E+00	6.163E-03	7.419E-03	0.1707	0.2054
99	0.750	0.178	515.6	2.579E+00	3.207E-03	3.836E-03	0.0888	0.1062
100	0.755	0.400	530.9	3.283E+00	4.161E-03	4.998E-03	0.1152	0.1384
101	0.800	-0.250	521.8	3.104E+00	3.890E-03	4.661E-03	0.1077	0.1291
45	0.800	0.107	516.4	2.632E+00	3.276E-03	3.921E-03	0.0907	0.1086
56	0.800	0.250	521.3	3.087E+00	3.867E-03	4.633E-03	0.1071	0.1283
66	0.800	0.500	539.7	4.007E+00	5.137E-03	6.183E-03	0.1423	0.1712
70	0.800	0.600	549.5	4.628E+00	6.009E-03	7.251E-03	0.1664	0.2008
75	0.800	0.750	557.3	4.770E+00	6.256E-03	7.566E-03	0.1733	0.2095
102	0.886	0.732	552.9	4.377E+00	5.708E-03	6.895E-03	0.1581	0.1909
103	0.900	-0.107	521.4	3.400E+00	4.259E-03	5.103E-03	0.1179	0.1413
57	0.900	0.250	531.1	4.050E+00	5.136E-03	6.168E-03	0.1422	0.1708

RUN 138

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:36
DATE RECORDED: 9-JUN-95
TIME RECORDED: 20:54:29
000011215

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
139	S6R 3	C-4	29-0	7.98	459.4	1318.67	30.00	-5.05	35.05	180.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.1	0.048	2.127	3873.	4.085E-05	7.893E-08	2.0042E+06	3.771E+06	3.611E-02	0.376

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	571.6	7.597E+00	1.017E-02	1.235E-02	0.2816	0.3419
6	0.060	0.000	559.9	5.801E+00	7.645E-03	9.254E-03	0.2117	0.2562
7	0.080	0.000	547.3	4.936E+00	6.399E-03	7.719E-03	0.1772	0.2137
8	0.100	0.000	537.2	4.633E+00	5.929E-03	7.132E-03	0.1642	0.1975
10	0.150	0.000	522.5	3.684E+00	4.627E-03	5.545E-03	0.1281	0.1536
16	0.192	0.000	515.7	3.119E+00	3.885E-03	4.648E-03	0.1076	0.1287
20	0.250	0.000	516.3	3.032E+00	3.779E-03	4.522E-03	0.1046	0.1252
23	0.300	0.000	512.0	3.040E+00	3.769E-03	4.505E-03	0.1044	0.1248
30	0.350	0.000	512.0	2.688E+00	3.332E-03	3.983E-03	0.0923	0.1103
31	0.400	0.000	508.1	2.461E+00	3.036E-03	3.626E-03	0.0841	0.1004
33	0.450	0.000	509.8	2.379E+00	2.941E-03	3.513E-03	0.0814	0.0973
34	0.500	0.000	510.5	2.485E+00	3.074E-03	3.674E-03	0.0851	0.1017
37	0.550	0.000	510.9	2.310E+00	2.860E-03	3.418E-03	0.0792	0.0946
38	0.600	0.000	514.9	2.413E+00	3.002E-03	3.591E-03	0.0831	0.0994
40	0.650	0.000	517.1	2.360E+00	2.944E-03	3.523E-03	0.0815	0.0976
41	0.700	0.000	519.6	2.350E+00	2.941E-03	3.523E-03	0.0814	0.0975
43	0.750	0.000	519.4	2.513E+00	3.144E-03	3.765E-03	0.0871	0.1043
46	0.850	0.000	529.8	2.978E+00	3.775E-03	4.533E-03	0.1045	0.1255
49	0.950	0.000	534.4	3.138E+00	4.001E-03	4.809E-03	0.1108	0.1332
86	0.125	0.055	541.1	6.355E+00	8.172E-03	9.841E-03	0.2263	0.2725
11	0.150	0.091	523.8	4.188E+00	5.269E-03	6.317E-03	0.1459	0.1749
17	0.192	0.107	529.3	5.371E+00	6.804E-03	8.169E-03	0.1884	0.2262
87	0.300	-0.106	512.5	3.592E+00	4.456E-03	5.327E-03	0.1234	0.1475
88	0.300	0.061	516.0	3.246E+00	4.044E-03	4.839E-03	0.1120	0.1340
89	0.300	0.122	523.8	5.138E+00	6.464E-03	7.750E-03	0.1790	0.2146
24	0.300	0.160	529.7	7.453E+00	9.447E-03	1.134E-02	0.2616	0.3141
25	0.300	0.221	525.5	6.728E+00	8.482E-03	1.017E-02	0.2349	0.2817
90	0.400	-0.107	509.5	2.825E+00	3.491E-03	4.170E-03	0.0967	0.1155
32	0.400	0.107	510.4	2.867E+00	3.547E-03	4.238E-03	0.0982	0.1174
52	0.400	0.250	528.1	7.384E+00	9.340E-03	1.121E-02	0.2586	0.3104
91	0.425	0.061	510.8	2.615E+00	3.236E-03	3.868E-03	0.0896	0.1071
92	0.425	0.178	522.1	5.868E+00	7.367E-03	8.828E-03	0.2040	0.2445
93	0.500	-0.107	509.7	2.357E+00	2.914E-03	3.481E-03	0.0807	0.0964
35	0.500	0.107	507.6	2.484E+00	3.063E-03	3.657E-03	0.0848	0.1013
94	0.500	0.178	520.1	5.091E+00	6.375E-03	7.636E-03	0.1765	0.2114
53	0.500	0.250	530.0	7.483E+00	9.489E-03	1.139E-02	0.2628	0.3155
95	0.600	-0.250	513.2	2.559E+00	3.177E-03	3.799E-03	0.0880	0.1052
39	0.600	0.107	514.0	2.709E+00	3.367E-03	4.027E-03	0.0932	0.1115

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:36
DATE RECORDED: 9-JUN-95
TIME RECORDED: 20:54:29
000011216

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
139	S6R 3	C-4	29-O	7.98	459.4	1318.67	30.00	-5.05	35.05	180.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.1	0.048	2.127	3873.	4.085E-05	7.893E-08	2.0042E+06	3.771E+06	3.611E-02	0.376

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	530.4	6.735E+00	8.544E-03	1.026E-02	0.2366	0.2841
98	0.660	-0.107	516.1	2.354E+00	2.933E-03	3.509E-03	0.0812	0.0972
96	0.660	0.107	519.7	3.171E+00	3.969E-03	4.753E-03	0.1099	0.1316
97	0.660	0.250	536.0	6.609E+00	8.444E-03	1.016E-02	0.2338	0.2812
60	0.660	0.400	554.1	9.465E+00	1.238E-02	1.496E-02	0.3428	0.4143
65	0.700	0.500	580.0	1.175E+01	1.591E-02	1.937E-02	0.4406	0.5364
99	0.750	0.178	531.1	4.705E+00	5.973E-03	7.174E-03	0.1654	0.1987
100	0.755	0.400	563.5	8.798E+00	1.165E-02	1.411E-02	0.3226	0.3908
101	0.800	-0.250	525.6	2.631E+00	3.317E-03	3.978E-03	0.0918	0.1102
45	0.800	0.107	526.5	3.388E+00	4.277E-03	5.131E-03	0.1184	0.1421
56	0.800	0.250	544.0	7.019E+00	9.061E-03	1.092E-02	0.2509	0.3024
66	0.800	0.500	574.5	9.336E+00	1.255E-02	1.525E-02	0.3474	0.4222
70	0.800	0.600	589.2	1.037E+01	1.422E-02	1.736E-02	0.3938	0.4807
75	0.800	0.750	601.2	1.079E+01	1.504E-02	1.842E-02	0.4163	0.5101
102	0.886	0.732	583.6	8.745E+00	1.190E-02	1.450E-02	0.3295	0.4015
103	0.900	-0.107	526.6	2.776E+00	3.504E-03	4.205E-03	0.0970	0.1164
57	0.900	0.250	547.9	6.344E+00	8.230E-03	9.929E-03	0.2279	0.2749

RUN 139

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED 19-JUL-95
TIME COMPUTED 06:09:39
DATE RECORDED 9-JUN-95
TIME RECORDED 21:07:34
000011217

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
140	S6R21	C-4	29-0	7.96	355.4	1289.67	30.00	-10.04	40.04	179.93

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.1	0.037	1.656	3826.	3.258E-05	7.730E-08	1.6123E+06	3.034E+06	3.174E-02	0.384

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	542.3	7.037E+00	9.416E-03	1.138E-02	0.2967	0.3585
6	0.060	0.000	534.5	5.472E+00	7.246E-03	8.739E-03	0.2283	0.2753
7	0.080	0.000	528.1	4.602E+00	6.042E-03	7.274E-03	0.1904	0.2292
8	0.100	0.000	526.0	4.226E+00	5.533E-03	6.658E-03	0.1743	0.2098
10	0.150	0.000	521.2	3.388E+00	4.408E-03	5.297E-03	0.1389	0.1669
16	0.192	0.000	514.6	3.061E+00	3.949E-03	4.737E-03	0.1244	0.1492
20	0.250	0.000	514.5	2.990E+00	3.858E-03	4.628E-03	0.1215	0.1458
23	0.300	0.000	510.3	2.812E+00	3.608E-03	4.324E-03	0.1137	0.1362
30	0.350	0.000	511.1	2.668E+00	3.427E-03	4.108E-03	0.1080	0.1294
31	0.400	0.000	507.0	2.459E+00	3.142E-03	3.762E-03	0.0990	0.1185
33	0.450	0.000	509.2	2.466E+00	3.159E-03	3.785E-03	0.0995	0.1193
34	0.500	0.000	511.1	2.359E+00	3.030E-03	3.631E-03	0.0955	0.1144
37	0.550	0.000	511.7	2.169E+00	2.788E-03	3.341E-03	0.0878	0.1053
38	0.600	0.000	515.3	2.313E+00	2.987E-03	3.583E-03	0.0941	0.1129
40	0.650	0.000	517.0	2.117E+00	2.740E-03	3.289E-03	0.0863	0.1036
41	0.700	0.000	519.3	2.083E+00	2.703E-03	3.247E-03	0.0852	0.1023
43	0.750	0.000	518.5	2.010E+00	2.606E-03	3.129E-03	0.0821	0.0986
46	0.850	0.000	526.2	1.835E+00	2.403E-03	2.891E-03	0.0757	0.0911
49	0.950	0.000	527.0	1.842E+00	2.416E-03	2.907E-03	0.0761	0.0916
86	0.125	0.055	531.4	5.354E+00	7.060E-03	8.507E-03	0.2224	0.2680
11	0.150	0.091	520.8	4.257E+00	5.537E-03	6.652E-03	0.1744	0.2096
17	0.192	0.107	521.5	4.215E+00	5.488E-03	6.595E-03	0.1729	0.2078
87	0.300	-0.106	511.6	3.417E+00	4.392E-03	5.264E-03	0.1384	0.1659
88	0.300	0.061	513.9	3.039E+00	3.917E-03	4.698E-03	0.1234	0.1480
89	0.300	0.122	515.0	3.560E+00	4.595E-03	5.513E-03	0.1448	0.1737
24	0.300	0.160	513.4	3.845E+00	4.953E-03	5.940E-03	0.1560	0.1871
25	0.300	0.221	514.4	4.217E+00	5.439E-03	6.524E-03	0.1714	0.2056
90	0.400	-0.107	509.4	2.742E+00	3.515E-03	4.211E-03	0.1107	0.1327
32	0.400	0.107	508.6	2.691E+00	3.446E-03	4.127E-03	0.1086	0.1300
52	0.400	0.250	513.1	3.489E+00	4.492E-03	5.387E-03	0.1415	0.1697
91	0.425	0.061	509.7	2.547E+00	3.266E-03	3.913E-03	0.1029	0.1233
92	0.425	0.178	510.0	3.161E+00	4.054E-03	4.857E-03	0.1277	0.1530
93	0.500	-0.107	510.6	2.256E+00	2.896E-03	3.471E-03	0.0913	0.1094
35	0.500	0.107	507.9	2.109E+00	2.698E-03	3.231E-03	0.0850	0.1018
94	0.500	0.178	512.0	2.867E+00	3.687E-03	4.420E-03	0.1162	0.1393
53	0.500	0.250	514.5	3.205E+00	4.135E-03	4.960E-03	0.1303	0.1563
95	0.600	-0.250	513.2	2.389E+00	3.077E-03	3.690E-03	0.0969	0.1162
39	0.600	0.107	514.2	2.269E+00	2.926E-03	3.510E-03	0.0922	0.1106

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09.39
DATE RECORDED: 9-JUN-95
TIME RECORDED: 21:07.34
000011218

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
140	S6R21	C-4	29-O	7.96	355.4	1289.67	30.00	-10.04	40.04	179.93

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.1	0.037	1.656	3826.	3.258E-05	7.730E-08	1.6123E+06	3.034E+06	3.174E-02	0.384

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	515.0	2.399E+00	3.097E-03	3.715E-03	0.0976	0.1171
98	0.660	-0.107	516.1	2.210E+00	2.857E-03	3.428E-03	0.0900	0.1080
96	0.660	0.107	518.5	2.458E+00	3.188E-03	3.828E-03	0.1004	0.1206
97	0.660	0.250	520.1	2.093E+00	2.720E-03	3.267E-03	0.0857	0.1029
60	0.660	0.400	528.5	3.285E+00	4.316E-03	5.196E-03	0.1360	0.1637
65	0.700	0.500	542.7	4.032E+00	5.398E-03	6.525E-03	0.1701	0.2056
99	0.750	0.178	521.8	1.832E+00	2.385E-03	2.866E-03	0.0751	0.0903
100	0.755	0.400	535.6	2.592E+00	3.438E-03	4.147E-03	0.1083	0.1306
101	0.800	-0.250	523.9	2.256E+00	2.946E-03	3.542E-03	0.0928	0.1116
45	0.800	0.107	521.5	1.701E+00	2.215E-03	2.661E-03	0.0698	0.0839
56	0.800	0.250	526.2	2.117E+00	2.773E-03	3.336E-03	0.0874	0.1051
66	0.800	0.500	543.1	3.015E+00	4.038E-03	4.882E-03	0.1272	0.1538
70	0.800	0.600	551.5	3.730E+00	5.054E-03	6.123E-03	0.1592	0.1929
75	0.800	0.750	559.5	3.835E+00	5.252E-03	6.379E-03	0.1655	0.2010
102	0.886	0.732	556.8	3.435E+00	4.687E-03	5.688E-03	0.1477	0.1792
103	0.900	-0.107	523.8	1.941E+00	2.534E-03	3.047E-03	0.0798	0.0960
57	0.900	0.250	534.2	2.575E+00	3.408E-03	4.110E-03	0.1074	0.1295

RUN 140

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:43
DATE RECORDED: 9-JUN-95
TIME RECORDED: 21:12:38
000011219

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
141	S6R 5	C-4	29-O	7.96	329.6	1288.67	30.00	-10.04	40.04	179.94

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.1	0.035	1.538	3824.	3.030E-05	7.731E-08	1.4986E+06	2.820E+06	3.059E-02	0.390

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	550.3	6.837E+00	9.260E-03	1.122E-02	0.3027	0.3667
6	0.060	0.000	542.6	5.246E+00	7.032E-03	8.500E-03	0.2299	0.2779
7	0.080	0.000	535.8	4.426E+00	5.879E-03	7.093E-03	0.1922	0.2319
8	0.100	0.000	533.2	4.042E+00	5.350E-03	6.451E-03	0.1749	0.2109
10	0.150	0.000	527.8	3.259E+00	4.283E-03	5.156E-03	0.1400	0.1686
16	0.192	0.000	520.6	2.889E+00	3.762E-03	4.520E-03	0.1230	0.1478
20	0.250	0.000	521.2	2.857E+00	3.723E-03	4.474E-03	0.1217	0.1462
23	0.300	0.000	516.9	2.692E+00	3.488E-03	4.187E-03	0.1140	0.1369
30	0.350	0.000	517.6	2.637E+00	3.420E-03	4.107E-03	0.1118	0.1342
31	0.400	0.000	512.9	2.409E+00	3.105E-03	3.724E-03	0.1015	0.1217
33	0.450	0.000	514.8	2.318E+00	2.996E-03	3.594E-03	0.0979	0.1175
34	0.500	0.000	516.6	2.293E+00	2.970E-03	3.565E-03	0.0971	0.1165
37	0.550	0.000	517.0	2.129E+00	2.760E-03	3.313E-03	0.0902	0.1083
38	0.600	0.000	520.4	2.186E+00	2.845E-03	3.419E-03	0.0930	0.1118
40	0.650	0.000	522.1	2.063E+00	2.691E-03	3.234E-03	0.0880	0.1057
41	0.700	0.000	523.7	1.962E+00	2.565E-03	3.085E-03	0.0839	0.1009
43	0.750	0.000	523.4	1.903E+00	2.486E-03	2.989E-03	0.0813	0.0977
46	0.850	0.000	530.3	1.530E+00	2.018E-03	2.431E-03	0.0660	0.0795
49	0.950	0.000	530.6	1.541E+00	2.033E-03	2.449E-03	0.0665	0.0801
86	0.125	0.055	538.0	5.183E+00	6.905E-03	8.336E-03	0.2257	0.2725
11	0.150	0.091	526.6	4.024E+00	5.280E-03	6.354E-03	0.1726	0.2077
17	0.192	0.107	526.8	4.023E+00	5.280E-03	6.355E-03	0.1726	0.2077
87	0.300	-0.106	517.6	3.249E+00	4.213E-03	5.058E-03	0.1377	0.1654
88	0.300	0.061	520.6	2.932E+00	3.817E-03	4.586E-03	0.1248	0.1499
89	0.300	0.122	521.3	3.439E+00	4.482E-03	5.387E-03	0.1465	0.1761
24	0.300	0.160	519.0	3.716E+00	4.828E-03	5.799E-03	0.1578	0.1896
25	0.300	0.221	519.3	3.942E+00	5.123E-03	6.154E-03	0.1675	0.2012
90	0.400	-0.107	515.3	2.656E+00	3.434E-03	4.120E-03	0.1123	0.1347
32	0.400	0.107	514.3	2.548E+00	3.291E-03	3.948E-03	0.1076	0.1291
52	0.400	0.250	518.0	3.354E+00	4.351E-03	5.225E-03	0.1423	0.1708
91	0.425	0.061	515.5	2.462E+00	3.184E-03	3.821E-03	0.1041	0.1249
92	0.425	0.178	514.9	3.000E+00	3.878E-03	4.652E-03	0.1268	0.1521
93	0.500	-0.107	516.0	2.199E+00	2.846E-03	3.416E-03	0.0931	0.1117
35	0.500	0.107	513.0	2.099E+00	2.706E-03	3.246E-03	0.0885	0.1061
94	0.500	0.178	516.8	2.742E+00	3.553E-03	4.265E-03	0.1161	0.1394
53	0.500	0.250	519.3	3.113E+00	4.046E-03	4.860E-03	0.1323	0.1589
95	0.600	-0.250	517.6	2.279E+00	2.956E-03	3.549E-03	0.0966	0.1160
39	0.600	0.107	519.2	2.146E+00	2.789E-03	3.350E-03	0.0912	0.1095

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:43
DATE RECORDED: 9-JUN-95
TIME RECORDED: 21:12:38
000011220

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
141	S6R 5	C-4	29-0	7.96	329.6	1288.67	30.00	-10.04	40.04	179.94

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.1	0.035	1.538	3824.	3.030E-05	7.731E-08	1.4986E+06	2.820E+06	3.059E-02	0.390

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	519.5	2.329E+00	3.028E-03	3.637E-03	0.0990	0.1189
98	0.660	-0.107	521.0	2.140E+00	2.788E-03	3.350E-03	0.0911	0.1095
96	0.660	0.107	523.2	2.323E+00	3.035E-03	3.650E-03	0.0992	0.1193
97	0.660	0.250	525.3	1.981E+00	2.595E-03	3.122E-03	0.0848	0.1021
60	0.660	0.400	534.3	3.086E+00	4.091E-03	4.934E-03	0.1337	0.1613
65	0.700	0.500	549.8	3.787E+00	5.125E-03	6.208E-03	0.1675	0.2029
99	0.750	0.178	526.5	1.730E+00	2.269E-03	2.731E-03	0.0742	0.0893
100	0.755	0.400	542.7	2.383E+00	3.194E-03	3.862E-03	0.1044	0.1262
101	0.800	-0.250	528.3	2.053E+00	2.700E-03	3.251E-03	0.0883	0.1063
45	0.800	0.107	525.7	1.661E+00	2.177E-03	2.620E-03	0.0712	0.0856
56	0.800	0.250	531.5	1.939E+00	2.561E-03	3.086E-03	0.0837	0.1009
66	0.800	0.500	551.5	2.791E+00	3.786E-03	4.588E-03	0.1238	0.1500
70	0.800	0.600	560.0	3.519E+00	4.829E-03	5.866E-03	0.1579	0.1918
75	0.800	0.750	569.5	3.609E+00	5.018E-03	6.114E-03	0.1641	0.1999
102	0.886	0.732	564.7	3.282E+00	4.533E-03	5.515E-03	0.1482	0.1803
103	0.900	-0.107	528.3	1.753E+00	2.305E-03	2.775E-03	0.0754	0.0907
57	0.900	0.250	538.9	2.335E+00	3.114E-03	3.760E-03	0.1018	0.1229

RUN 141

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:46
DATE RECORDED: 9-JUN-95
TIME RECORDED: 21:14:14
000011221

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
142	S6R 7	C-4	29-O	7.96	332.5	1288.67	30.00	-5.06	35.06	179.94

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.1	0.035	1.552	3824.	3.056E-05	7.730E-08	1.5116E+06	2.844E+06	3.072E-02	0.397

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	564.3	6.125E+00	8.455E-03	1.029E-02	0.2752	0.3348
6	0.060	0.000	555.1	4.624E+00	6.304E-03	7.647E-03	0.2052	0.2489
7	0.080	0.000	547.4	3.866E+00	5.215E-03	6.312E-03	0.1697	0.2055
8	0.100	0.000	543.7	3.464E+00	4.650E-03	5.623E-03	0.1514	0.1830
10	0.150	0.000	536.6	2.739E+00	3.642E-03	4.395E-03	0.1186	0.1431
16	0.192	0.000	528.1	2.418E+00	3.180E-03	3.829E-03	0.1035	0.1246
20	0.250	0.000	528.7	2.328E+00	3.063E-03	3.689E-03	0.0997	0.1201
23	0.300	0.000	524.5	2.330E+00	3.049E-03	3.667E-03	0.0992	0.1194
30	0.350	0.000	524.0	2.163E+00	2.829E-03	3.403E-03	0.0921	0.1108
31	0.400	0.000	518.9	1.911E+00	2.482E-03	2.981E-03	0.0808	0.0970
33	0.450	0.000	520.6	1.939E+00	2.524E-03	3.033E-03	0.0822	0.0987
34	0.500	0.000	522.2	1.933E+00	2.522E-03	3.031E-03	0.0821	0.0987
37	0.550	0.000	522.7	1.765E+00	2.304E-03	2.770E-03	0.0750	0.0902
38	0.600	0.000	525.9	1.842E+00	2.414E-03	2.905E-03	0.0785	0.0946
40	0.650	0.000	527.7	1.740E+00	2.287E-03	2.753E-03	0.0744	0.0896
41	0.700	0.000	529.4	1.656E+00	2.180E-03	2.626E-03	0.0710	0.0855
43	0.750	0.000	528.7	1.592E+00	2.095E-03	2.522E-03	0.0682	0.0821
46	0.850	0.000	535.2	1.403E+00	1.862E-03	2.247E-03	0.0605	0.0731
49	0.950	0.000	535.6	1.217E+00	1.617E-03	1.950E-03	0.0526	0.0635
86	0.125	0.055	548.6	4.796E+00	6.480E-03	7.847E-03	0.2109	0.2554
11	0.150	0.091	533.4	3.206E+00	4.245E-03	5.119E-03	0.1382	0.1666
17	0.192	0.107	533.4	3.677E+00	4.868E-03	5.870E-03	0.1585	0.1911
87	0.300	-0.106	523.9	2.816E+00	3.682E-03	4.428E-03	0.1199	0.1441
88	0.300	0.061	528.4	2.443E+00	3.213E-03	3.869E-03	0.1046	0.1259
89	0.300	0.122	531.2	3.471E+00	4.583E-03	5.522E-03	0.1492	0.1797
24	0.300	0.160	532.7	4.799E+00	6.348E-03	7.652E-03	0.2066	0.2491
25	0.300	0.221	528.2	4.099E+00	5.390E-03	6.490E-03	0.1755	0.2112
90	0.400	-0.107	520.7	2.233E+00	2.908E-03	3.494E-03	0.0947	0.1137
32	0.400	0.107	520.1	2.206E+00	2.871E-03	3.449E-03	0.0934	0.1123
52	0.400	0.250	531.5	5.098E+00	6.733E-03	8.114E-03	0.2192	0.2641
91	0.425	0.061	521.2	2.022E+00	2.634E-03	3.166E-03	0.0857	0.1030
92	0.425	0.178	525.2	3.802E+00	4.979E-03	5.991E-03	0.1621	0.1950
93	0.500	-0.107	521.0	1.876E+00	2.443E-03	2.936E-03	0.0795	0.0956
35	0.500	0.107	518.7	1.818E+00	2.361E-03	2.836E-03	0.0769	0.0923
94	0.500	0.178	525.3	3.268E+00	4.282E-03	5.151E-03	0.1394	0.1677
53	0.500	0.250	533.0	5.003E+00	6.620E-03	7.982E-03	0.2155	0.2598
95	0.600	-0.250	521.5	1.964E+00	2.560E-03	3.077E-03	0.0833	0.1002
39	0.600	0.107	524.4	1.875E+00	2.453E-03	2.950E-03	0.0798	0.0960

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:46
DATE RECORDED: 9-JUN-95
TIME RECORDED: 21:14:14
000011222

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
142	S6R 7	C-4	29-O	7.96	332.5	1288.67	30.00	-5.06	35.06	179.94

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.1	0.035	1.552	3824.	3.056E-05	7.730E-08	1.5116E+06	2.844E+06	3.072E-02	0.397

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	532.8	4.277E+00	5.659E-03	6.822E-03	0.1842	0.2221
98	0.660	-0.107	525.5	1.780E+00	2.332E-03	2.806E-03	0.0759	0.0913
96	0.660	0.107	528.7	2.072E+00	2.726E-03	3.283E-03	0.0887	0.1069
97	0.660	0.250	539.4	4.041E+00	5.394E-03	6.514E-03	0.1756	0.2120
60	0.660	0.400	558.9	6.866E+00	9.408E-03	1.143E-02	0.3062	0.3719
65	0.700	0.500	582.5	8.483E+00	1.201E-02	1.469E-02	0.3910	0.4783
99	0.750	0.178	535.7	2.552E+00	3.389E-03	4.089E-03	0.1103	0.1331
100	0.755	0.400	568.0	6.337E+00	8.793E-03	1.071E-02	0.2862	0.3486
101	0.800	-0.250	531.3	1.669E+00	2.204E-03	2.656E-03	0.0717	0.0865
45	0.800	0.107	531.9	1.700E+00	2.247E-03	2.708E-03	0.0731	0.0882
56	0.800	0.250	547.0	4.416E+00	5.954E-03	7.206E-03	0.1938	0.2346
66	0.800	0.500	579.3	6.815E+00	9.608E-03	1.174E-02	0.3127	0.3822
70	0.800	0.600	591.5	7.489E+00	1.074E-02	1.318E-02	0.3497	0.4290
75	0.800	0.750	593.4	4.649E+00	6.687E-03	8.208E-03	0.2177	0.2672
102	0.886	0.732	589.0	6.308E+00	9.015E-03	1.105E-02	0.2935	0.3597
103	0.900	-0.107	531.9	1.383E+00	1.828E-03	2.203E-03	0.0595	0.0717
57	0.900	0.250	551.7	4.123E+00	5.595E-03	6.781E-03	0.1821	0.2207

RUN 142

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:50
DATE RECORDED: 9-JUN-95
TIME RECORDED: 21:35:14
0000111223

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
143	S6R23	C-4	29-0	7.98	461.2	1316.67	30.00	-10.05	40.05	179.97

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.9	0.048	2.136	3870	4.107E-05	7.880E-08	2.0170E+06	3.795E+06	3.617E 02	0.391

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	576.4	8.231E+00	1.112E-02	1.352E-02	0.3074	0.3739
6	0.060	0.000	568.0	6.339E+00	8.467E-03	1.027E-02	0.2341	0.2840
7	0.080	0.000	560.9	5.374E+00	7.111E-03	8.611E-03	0.1966	0.2381
8	0.100	0.000	556.6	4.863E+00	6.397E-03	7.738E-03	0.1769	0.2139
10	0.150	0.000	551.3	4.158E+00	5.432E-03	6.561E-03	0.1502	0.1814
16	0.192	0.000	541.7	3.575E+00	4.613E-03	5.557E-03	0.1275	0.1536
20	0.250	0.000	540.8	3.505E+00	4.518E-03	5.441E-03	0.1249	0.1504
23	0.300	0.000	532.1	3.380E+00	4.308E-03	5.177E-03	0.1191	0.1431
30	0.350	0.000	527.7	3.241E+00	4.108E-03	4.931E-03	0.1136	0.1363
31	0.400	0.000	523.8	2.987E+00	3.768E-03	4.518E-03	0.1042	0.1249
33	0.450	0.000	528.9	2.904E+00	3.687E-03	4.427E-03	0.1019	0.1224
34	0.500	0.000	534.3	2.922E+00	3.734E-03	4.490E-03	0.1032	0.1241
37	0.550	0.000	536.2	2.675E+00	3.427E-03	4.122E-03	0.0947	0.1140
38	0.600	0.000	539.3	2.761E+00	3.552E-03	4.277E-03	0.0982	0.1182
40	0.650	0.000	539.5	2.648E+00	3.407E-03	4.102E-03	0.0942	0.1134
41	0.700	0.000	540.1	2.784E+00	3.585E-03	4.317E-03	0.0991	0.1193
43	0.750	0.000	540.5	2.789E+00	3.593E-03	4.327E-03	0.0993	0.1196
46	0.850	0.000	551.1	3.017E+00	3.941E-03	4.760E-03	0.1089	0.1316
49	0.950	0.000	560.9	3.439E+00	4.550E-03	5.510E-03	0.1258	0.1523
86	0.125	0.055	562.5	6.455E+00	8.559E-03	1.037E-02	0.2366	0.2867
11	0.150	0.091	555.8	6.279E+00	8.252E-03	9.979E-03	0.2281	0.2759
17	0.192	0.107	550.1	5.267E+00	6.871E-03	8.296E-03	0.1900	0.2294
87	0.300	-0.106	535.0	3.946E+00	5.048E-03	6.071E-03	0.1396	0.1678
88	0.300	0.061	535.1	3.595E+00	4.600E-03	5.531E-03	0.1272	0.1529
89	0.300	0.122	537.2	4.343E+00	5.572E-03	6.704E-03	0.1540	0.1853
24	0.300	0.160	536.7	4.848E+00	6.216E-03	7.479E-03	0.1718	0.2067
25	0.300	0.221	539.1	5.714E+00	7.349E-03	8.847E-03	0.2031	0.2446
90	0.400	-0.107	527.6	3.378E+00	4.281E-03	5.139E-03	0.1183	0.1421
32	0.400	0.107	525.7	3.275E+00	4.141E-03	4.968E-03	0.1145	0.1373
52	0.400	0.250	536.3	4.362E+00	5.589E-03	6.724E-03	0.1545	0.1859
91	0.425	0.061	528.9	3.130E+00	3.973E-03	4.770E-03	0.1098	0.1319
92	0.425	0.178	532.1	3.764E+00	4.797E-03	5.764E-03	0.1326	0.1593
93	0.500	-0.107	533.2	2.706E+00	3.454E-03	4.152E-03	0.0955	0.1148
35	0.500	0.107	532.1	2.585E+00	3.294E-03	3.959E-03	0.0911	0.1094
94	0.500	0.178	536.5	3.415E+00	4.377E-03	5.266E-03	0.1210	0.1456
53	0.500	0.250	541.2	3.744E+00	4.828E-03	5.816E-03	0.1335	0.1608
95	0.600	-0.250	539.0	2.825E+00	3.633E-03	4.373E-03	0.1004	0.1209
39	0.600	0.107	539.8	2.710E+00	3.488E-03	4.200E-03	0.0964	0.1161

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:50
DATE RECORDED: 9-JUN-95
TIME RECORDED: 21:35:14
000011224

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
143	S6R23	C-4	29-O	7.98	461.2	1316.67	30.00	-10.05	40.05	179.97

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.9	0.048	2.136	3870.	4.107E-05	7.880E-08	2.0170E+06	3.795E+06	3.617E-02	0.391

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	541.3	2.895E+00	3.734E-03	4.497E-03	0.1032	0.1243
98	0.660	-0.107	539.4	2.762E+00	3.554E-03	4.278E-03	0.0982	0.1183
96	0.660	0.107	541.5	2.986E+00	3.851E-03	4.640E-03	0.1065	0.1283
97	0.660	0.250	541.8	2.647E+00	3.416E-03	4.116E-03	0.0944	0.1138
60	0.660	0.400	548.7	4.048E+00	5.271E-03	6.362E-03	0.1457	0.1759
65	0.700	0.500	563.1	4.961E+00	6.583E-03	7.977E-03	0.1820	0.2205
99	0.750	0.178	545.5	2.590E+00	3.359E-03	4.051E-03	0.0929	0.1120
100	0.755	0.400	558.4	3.345E+00	4.412E-03	5.339E-03	0.1220	0.1476
101	0.800	-0.250	549.9	3.034E+00	3.957E-03	4.777E-03	0.1094	0.1321
45	0.800	0.107	548.5	2.609E+00	3.396E-03	4.099E-03	0.0939	0.1133
56	0.800	0.250	551.0	3.057E+00	3.993E-03	4.823E-03	0.1104	0.1333
66	0.800	0.500	565.6	4.001E+00	5.327E-03	6.459E-03	0.1473	0.1786
70	0.800	0.600	578.4	4.771E+00	6.462E-03	7.865E-03	0.1786	0.2174
75	0.800	0.750	578.6	4.820E+00	6.529E-03	7.947E-03	0.1805	0.2197
102	0.886	0.732	580.8	4.593E+00	6.241E-03	7.601E-03	0.1725	0.2101
103	0.900	-0.107	550.6	3.179E+00	4.149E-03	5.011E-03	0.1147	0.1385
57	0.900	0.250	559.8	4.003E+00	5.288E-03	6.402E-03	0.1462	0.1770

RUN 143

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:53
DATE RECORDED: 9-JUN-95
TIME RECORDED: 21:37:40
000011225

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
144	S6R25	C-4	29-0	7.98	460.4	1318.67	30.00	-5.06	35.06	179.92

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.1	0.048	2.132	3873.	4.094E-05	7.893E-08	2.0085E+06	3.779E+06	3.615E-02	0.390

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	571.9	7.658E+00	1.026E-02	1.245E-02	0.2837	0.3445
6	0.060	0.000	561.5	5.796E+00	7.654E-03	9.269E-03	0.2117	0.2564
7	0.080	0.000	549.7	4.968E+00	6.461E-03	7.798E-03	0.1787	0.2157
8	0.100	0.000	539.8	4.617E+00	5.928E-03	7.136E-03	0.1640	0.1974
10	0.150	0.000	530.1	3.856E+00	4.889E-03	5.871E-03	0.1352	0.1624
16	0.192	0.000	526.6	3.142E+00	3.966E-03	4.759E-03	0.1097	0.1316
20	0.250	0.000	532.6	3.040E+00	3.867E-03	4.647E-03	0.1070	0.1285
23	0.300	0.000	530.6	2.984E+00	3.786E-03	4.547E-03	0.1047	0.1258
30	0.350	0.000	533.8	2.634E+00	3.356E-03	4.034E-03	0.0928	0.1116
31	0.400	0.000	531.7	2.423E+00	3.079E-03	3.698E-03	0.0852	0.1023
33	0.450	0.000	532.5	2.378E+00	3.024E-03	3.634E-03	0.0837	0.1005
34	0.500	0.000	534.0	2.513E+00	3.203E-03	3.850E-03	0.0886	0.1065
37	0.550	0.000	535.7	2.279E+00	2.910E-03	3.500E-03	0.0805	0.0968
38	0.600	0.000	540.0	2.345E+00	3.012E-03	3.626E-03	0.0833	0.1003
40	0.650	0.000	542.3	2.249E+00	2.897E-03	3.489E-03	0.0801	0.0965
41	0.700	0.000	544.6	2.294E+00	2.963E-03	3.572E-03	0.0820	0.0988
43	0.750	0.000	544.4	2.413E+00	3.116E-03	3.756E-03	0.0862	0.1039
46	0.850	0.000	554.5	2.722E+00	3.562E-03	4.305E-03	0.0985	0.1191
49	0.950	0.000	564.4	3.002E+00	3.980E-03	4.824E-03	0.1101	0.1334
86	0.125	0.055	548.1	7.068E+00	9.172E-03	1.107E-02	0.2537	0.3061
11	0.150	0.091	533.1	4.539E+00	5.778E-03	6.944E-03	0.1598	0.1921
17	0.192	0.107	546.5	6.209E+00	8.041E-03	9.697E-03	0.2224	0.2682
87	0.300	-0.106	533.4	3.488E+00	4.442E-03	5.338E-03	0.1229	0.1477
88	0.300	0.061	534.6	3.151E+00	4.019E-03	4.832E-03	0.1112	0.1337
89	0.300	0.122	543.7	5.115E+00	6.601E-03	7.954E-03	0.1826	0.2200
24	0.300	0.160	549.9	7.593E+00	9.877E-03	1.192E-02	0.2732	0.3298
25	0.300	0.221	547.4	7.151E+00	9.272E-03	1.118E-02	0.2565	0.3094
90	0.400	-0.107	533.8	2.862E+00	3.646E-03	4.382E-03	0.1008	0.1212
32	0.400	0.107	533.7	2.852E+00	3.633E-03	4.367E-03	0.1005	0.1208
52	0.400	0.250	551.8	7.293E+00	9.509E-03	1.148E-02	0.2630	0.3177
91	0.425	0.061	535.1	2.577E+00	3.289E-03	3.954E-03	0.0910	0.1094
92	0.425	0.178	546.7	5.843E+00	7.570E-03	9.129E-03	0.2094	0.2525
93	0.500	-0.107	533.8	2.346E+00	2.989E-03	3.593E-03	0.0827	0.0994
35	0.500	0.107	532.3	2.437E+00	3.099E-03	3.724E-03	0.0857	0.1030
94	0.500	0.178	544.1	5.091E+00	6.573E-03	7.922E-03	0.1818	0.2191
53	0.500	0.250	554.3	7.449E+00	9.746E-03	1.178E-02	0.2696	0.3258
95	0.600	-0.250	540.0	2.505E+00	3.217E-03	3.873E-03	0.0890	0.1071
39	0.600	0.107	540.5	2.665E+00	3.425E-03	4.124E-03	0.0947	0.1141

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
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ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:09:53
DATE RECORDED: 9-JUN-95
TIME RECORDED: 21:37:40
000011226

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
144	S6R25	C-4	29-0	7.98	460.4	1318.67	30.00	-5.06	35.06	179.92

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.1	0.048	2.132	3873.	4.094E-05	7.893E-08	2.0085E+06	3.779E+06	3.615E-02	0.390

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	556.8	6.745E+00	8.853E-03	1.071E-02	0.2449	0.2961
98	0.660	-0.107	542.5	2.326E+00	2.997E-03	3.610E-03	0.0829	0.0999
96	0.660	0.107	545.6	3.066E+00	3.966E-03	4.782E-03	0.1097	0.1323
97	0.660	0.250	560.9	6.568E+00	8.668E-03	1.049E-02	0.2398	0.2903
60	0.660	0.400	574.0	9.348E+00	1.255E-02	1.525E-02	0.3472	0.4220
65	0.700	0.500	594.9	1.160E+01	1.603E-02	1.961E-02	0.4435	0.5424
99	0.750	0.178	557.4	4.792E+00	6.295E-03	7.614E-03	0.1741	0.2106
100	0.755	0.400	582.5	8.633E+00	1.173E-02	1.429E-02	0.3244	0.3952
101	0.800	-0.250	550.8	2.533E+00	3.299E-03	3.983E-03	0.0912	0.1102
45	0.800	0.107	554.6	3.510E+00	4.594E-03	5.553E-03	0.1271	0.1536
56	0.800	0.250	568.7	7.012E+00	9.350E-03	1.135E-02	0.2586	0.3138
66	0.800	0.500	590.9	9.221E+00	1.267E-02	1.547E-02	0.3505	0.4280
70	0.800	0.600	606.4	1.021E+01	1.434E-02	1.759E-02	0.3966	0.4867
75	0.800	0.750	611.8	1.062E+01	1.502E-02	1.846E-02	0.4154	0.5107
102	0.886	0.732	601.1	8.737E+00	1.218E-02	1.492E-02	0.3368	0.4126
103	0.900	-0.107	552.9	2.652E+00	3.463E-03	4.184E-03	0.0958	0.1157
57	0.900	0.250	571.5	6.298E+00	8.430E-03	1.024E-02	0.2332	0.2832

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JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06 10 13
DATE RECORDED: 9-JUN-95
TIME RECORDED: 21:57:36
000011227

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
145	S6R13	C-4	29-0	7.98	461.0	1319.67	30.00	-10.05	40.05	179.93

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.048	2.135	3874	4.096E-05	7.900E-08	2.0087E+06	3.780E+06	3.618E-02	0.399

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	567.5	8.120E+00	1.080E-02	1.309E-02	0.2984	0.3619
6	0.060	0.000	559.3	6.251E+00	8.221E-03	9.948E-03	0.2272	0.2750
7	0.080	0.000	553.6	5.249E+00	6.851E-03	8.277E-03	0.1894	0.2288
8	0.100	0.000	550.7	4.507E+00	5.861E-03	7.076E-03	0.1620	0.1956
10	0.150	0.000	550.1	3.994E+00	5.190E-03	6.264E-03	0.1435	0.1731
16	0.192	0.000	544.7	3.459E+00	4.464E-03	5.380E-03	0.1234	0.1487
20	0.250	0.000	546.9	3.296E+00	4.264E-03	5.143E-03	0.1179	0.1421
23	0.300	0.000	544.5	3.455E+00	4.457E-03	5.371E-03	0.1232	0.1485
30	0.350	0.000	548.4	3.491E+00	4.527E-03	5.461E-03	0.1251	0.1509
31	0.400	0.000	549.8	4.265E+00	5.540E-03	6.686E-03	0.1531	0.1848
33	0.450	0.000	555.8	5.563E+00	7.282E-03	8.803E-03	0.2013	0.2433
34	0.500	0.000	561.2	6.527E+00	8.606E-03	1.042E-02	0.2379	0.2880
37	0.550	0.000	563.8	6.888E+00	9.112E-03	1.104E-02	0.2519	0.3051
38	0.600	0.000	567.3	7.498E+00	9.967E-03	1.209E-02	0.2755	0.3341
40	0.650	0.000	570.0	7.991E+00	1.066E-02	1.294E-02	0.2946	0.3576
41	0.700	0.000	570.9	7.626E+00	1.019E-02	1.236E-02	0.2815	0.3418
43	0.750	0.000	569.2	7.324E+00	9.760E-03	1.184E-02	0.2698	0.3273
46	0.850	0.000	574.1	7.380E+00	9.898E-03	1.203E-02	0.2736	0.3324
49	0.950	0.000	576.7	5.932E+00	7.984E-03	9.708E-03	0.2207	0.2683
86	0.125	0.055	562.7	7.148E+00	9.442E-03	1.144E-02	0.2610	0.3161
11	0.150	0.091	550.8	5.115E+00	6.653E-03	8.032E-03	0.1839	0.2220
17	0.192	0.107	557.4	6.135E+00	8.049E-03	9.734E-03	0.2225	0.2690
87	0.300	-0.106	545.2	3.675E+00	4.745E-03	5.720E-03	0.1312	0.1581
88	0.300	0.061	560.7	7.013E+00	9.239E-03	1.118E-02	0.2554	0.3091
89	0.300	0.122	563.7	8.141E+00	1.077E-02	1.305E-02	0.2977	0.3606
24	0.300	0.160	560.8	8.057E+00	1.062E-02	1.285E-02	0.2935	0.3552
25	0.300	0.221	557.4	7.554E+00	9.910E-03	1.199E-02	0.2739	0.3313
90	0.400	-0.107	545.7	3.076E+00	3.974E-03	4.791E-03	0.1099	0.1324
32	0.400	0.107	560.0	7.697E+00	1.013E-02	1.226E-02	0.2800	0.3389
52	0.400	0.250	561.5	7.569E+00	9.984E-03	1.209E-02	0.2759	0.3341
91	0.425	0.061	563.2	7.644E+00	1.010E-02	1.224E-02	0.2793	0.3383
92	0.425	0.178	562.8	8.073E+00	1.067E-02	1.292E-02	0.2948	0.3571
93	0.500	-0.107	546.7	2.678E+00	3.465E-03	4.178E-03	0.0958	0.1155
35	0.500	0.107	562.0	7.605E+00	1.004E-02	1.215E-02	0.2774	0.3359
94	0.500	0.178	564.3	8.130E+00	1.076E-02	1.304E-02	0.2975	0.3605
53	0.500	0.250	566.1	8.067E+00	1.070E-02	1.298E-02	0.2959	0.3587
95	0.600	-0.250	548.3	2.758E+00	3.576E-03	4.314E-03	0.0988	0.1192
39	0.600	0.107	567.4	7.635E+00	1.015E-02	1.231E-02	0.2806	0.3402

CALSPAN CORP/AEDC OPERATIONS
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ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:10:14
DATE RECORDED: 9-JUN-95
TIME RECORDED: 21:57:36
000011228

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
145	S6R13	C-4	29-0	7.98	461.0	1319.67	30.00	-10.05	40.05	179.93

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.048	2.135	3874.	4.096E-05	7.900E-08	2.0087E+06	3.780E+06	3.618E-02	0.399

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	568.2	7.907E+00	1.052E-02	1.276E-02	0.2908	0.3528
98	0.660	-0.107	562.2	5.373E+00	7.094E-03	8.591E-03	0.1961	0.2374
96	0.660	0.107	570.0	7.686E+00	1.025E-02	1.244E-02	0.2834	0.3440
97	0.660	0.250	573.4	8.194E+00	1.098E-02	1.334E-02	0.3035	0.3687
60	0.660	0.400	581.0	9.531E+00	1.290E-02	1.571E-02	0.3566	0.4342
65	0.700	0.500	592.7	1.138E+01	1.566E-02	1.913E-02	0.4328	0.5288
99	0.750	0.178	575.1	7.642E+00	1.026E-02	1.247E-02	0.2837	0.3448
100	0.755	0.400	584.2	9.123E+00	1.240E-02	1.512E-02	0.3428	0.4178
101	0.800	-0.250	563.6	4.734E+00	6.262E-03	7.586E-03	0.1731	0.2097
45	0.800	0.107	574.4	7.287E+00	9.777E-03	1.188E-02	0.2702	0.3284
56	0.800	0.250	576.6	7.816E+00	1.052E-02	1.279E-02	0.2907	0.3535
66	0.800	0.500	586.5	9.329E+00	1.272E-02	1.552E-02	0.3517	0.4289
70	0.800	0.600	598.6	1.063E+01	1.474E-02	1.805E-02	0.4075	0.4988
75	0.800	0.750	599.1	1.131E+01	1.570E-02	1.922E-02	0.4339	0.5311
102	0.886	0.732	596.3	9.011E+00	1.246E-02	1.524E-02	0.3443	0.4212
103	0.900	-0.107	569.1	6.450E+00	8.593E-03	1.043E-02	0.2375	0.2882
57	0.900	0.250	576.9	6.959E+00	9.369E-03	1.139E-02	0.2590	0.3149

RUN 145

CALSPAN CORP/AEDC OPERATIONS
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PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:10:26
DATE RECORDED: 9-JUN-95
TIME RECORDED: 22:11:26
000011229

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
146	S6R15	C-4	29-0	7.98	459.1	1319.67	30.00	-5.04	35.04	179.93

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.048	2.126	3874.	4.079E-05	7.900E-08	2.0005E+06	3.764E+06	3.611E-02	0.417

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	587.3	7.560E+00	1.032E-02	1.259E-02	0.2859	0.3488
6	0.060	0.000	579.9	5.677E+00	7.675E-03	9.342E-03	0.2126	0.2587
7	0.080	0.000	575.0	4.830E+00	6.486E-03	7.883E-03	0.1796	0.2183
8	0.100	0.000	571.9	4.177E+00	5.585E-03	6.782E-03	0.1547	0.1878
10	0.150	0.000	570.0	3.394E+00	4.527E-03	5.494E-03	0.1254	0.1522
16	0.192	0.000	564.7	2.886E+00	3.823E-03	4.633E-03	0.1059	0.1283
20	0.250	0.000	566.1	2.898E+00	3.846E-03	4.663E-03	0.1065	0.1291
23	0.300	0.000	563.3	2.861E+00	3.783E-03	4.582E-03	0.1048	0.1269
30	0.350	0.000	565.3	2.554E+00	3.386E-03	4.104E-03	0.0938	0.1137
31	0.400	0.000	564.1	2.400E+00	3.176E-03	3.848E-03	0.0880	0.1066
33	0.450	0.000	567.2	2.367E+00	3.146E-03	3.815E-03	0.0871	0.1057
34	0.500	0.000	572.6	2.707E+00	3.623E-03	4.401E-03	0.1004	0.1219
37	0.550	0.000	576.7	2.998E+00	4.036E-03	4.908E-03	0.1118	0.1359
38	0.600	0.000	581.8	3.609E+00	4.892E-03	5.957E-03	0.1355	0.1650
40	0.650	0.000	587.2	4.192E+00	5.723E-03	6.981E-03	0.1585	0.1933
41	0.700	0.000	591.6	4.779E+00	6.564E-03	8.017E-03	0.1818	0.2220
43	0.750	0.000	593.4	5.293E+00	7.288E-03	8.906E-03	0.2018	0.2467
46	0.850	0.000	600.4	6.276E+00	8.726E-03	1.069E-02	0.2417	0.2960
49	0.950	0.000	599.4	5.014E+00	6.962E-03	8.524E-03	0.1928	0.2361
86	0.125	0.055	581.3	6.150E+00	8.328E-03	1.014E-02	0.2307	0.2809
11	0.150	0.091	569.7	3.954E+00	5.272E-03	6.398E-03	0.1460	0.1772
17	0.192	0.107	574.0	4.713E+00	6.321E-03	7.680E-03	0.1751	0.2127
87	0.300	-0.106	565.2	3.338E+00	4.424E-03	5.362E-03	0.1225	0.1485
88	0.300	0.061	570.3	3.985E+00	5.317E-03	6.454E-03	0.1473	0.1787
89	0.300	0.122	583.3	7.608E+00	1.033E-02	1.259E-02	0.2861	0.3486
24	0.300	0.160	580.1	7.507E+00	1.015E-02	1.235E-02	0.2811	0.3422
25	0.300	0.221	574.6	6.310E+00	8.470E-03	1.029E-02	0.2346	0.2851
90	0.400	-0.107	565.6	2.677E+00	3.550E-03	4.304E-03	0.0983	0.1192
32	0.400	0.107	578.8	6.231E+00	8.410E-03	1.023E-02	0.2329	0.2834
52	0.400	0.250	582.7	7.007E+00	9.508E-03	1.158E-02	0.2633	0.3208
91	0.425	0.061	573.3	3.908E+00	5.237E-03	6.362E-03	0.1450	0.1762
92	0.425	0.178	584.2	7.371E+00	1.002E-02	1.221E-02	0.2776	0.3383
93	0.500	-0.107	568.7	2.170E+00	2.889E-03	3.506E-03	0.0800	0.0971
35	0.500	0.107	584.7	6.250E+00	8.503E-03	1.036E-02	0.2355	0.2870
94	0.500	0.178	589.7	7.539E+00	1.033E-02	1.261E-02	0.2860	0.3492
53	0.500	0.250	591.5	7.391E+00	1.015E-02	1.240E-02	0.2811	0.3433
95	0.600	-0.250	571.4	2.357E+00	3.150E-03	3.825E-03	0.0872	0.1059
39	0.600	0.107	595.5	7.005E+00	9.672E-03	1.183E-02	0.2679	0.3276

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:10:26
DATE RECORDED: 9-JUN-95
TIME RECORDED: 22:11:26
00001230

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
146	S6R15	C-4	29-O	7.98	459.1	1319.67	30.00	-5.04	35.04	179.93

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.048	2.126	3874.	4.079E-05	7.900E-08	2.0005E+06	3.764E+06	3.611E-02	0.417

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	597.8	7.380E+00	1.022E-02	1.251E-02	0.2831	0.3465
98	0.660	-0.107	577.9	2.437E+00	3.286E-03	3.997E-03	0.0910	0.1107
96	0.660	0.107	599.7	7.114E+00	9.881E-03	1.210E-02	0.2737	0.3351
97	0.660	0.250	604.4	7.465E+00	1.044E-02	1.280E-02	0.2890	0.3544
60	0.660	0.400	612.9	8.918E+00	1.262E-02	1.552E-02	0.3495	0.4297
65	0.700	0.500	626.5	1.096E+01	1.581E-02	1.953E-02	0.4380	0.5410
99	0.750	0.178	605.2	6.842E+00	9.577E-03	1.175E-02	0.2652	0.3253
100	0.755	0.400	617.5	8.101E+00	1.154E-02	1.421E-02	0.3195	0.3935
101	0.800	-0.250	581.3	2.373E+00	3.214E-03	3.914E-03	0.0890	0.1084
45	0.800	0.107	604.5	6.583E+00	9.204E-03	1.129E-02	0.2549	0.3126
56	0.800	0.250	607.7	7.045E+00	9.896E-03	1.215E-02	0.2741	0.3364
66	0.800	0.500	622.0	8.965E+00	1.285E-02	1.585E-02	0.3559	0.4389
70	0.800	0.600	632.2	9.903E+00	1.440E-02	1.783E-02	0.3989	0.4937
75	0.800	0.750	628.6	1.022E+01	1.478E-02	1.827E-02	0.4094	0.5060
102	0.886	0.732	624.8	8.127E+00	1.170E-02	1.444E-02	0.3239	0.3999
103	0.900	-0.107	587.0	4.140E+00	5.650E-03	6.891E-03	0.1565	0.1909
57	0.900	0.250	605.4	6.223E+00	8.713E-03	1.069E-02	0.2413	0.2960

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL 95
TIME COMPUTED: 06:10:36
DATE RECORDED: 9-JUN-95
TIME RECORDED: 22:22:46
00001123I

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
147	S6R27	C-4	29-O	7.98	459.8	1319.67	30.00	-5.06	35.06	179.93

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.048	2.129	3874.	4.085E-05	7.900E-08	2.0035E+06	3.770E+06	3.613E-02	0.415

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	580.1	7.567E+00	1.023E-02	1.245E-02	0.2832	0.3447
6	0.060	0.000	571.6	5.625E+00	7.520E-03	9.130E-03	0.2081	0.2527
7	0.080	0.000	566.3	4.646E+00	6.167E-03	7.477E-03	0.1707	0.2069
8	0.100	0.000	565.2	4.196E+00	5.561E-03	6.740E-03	0.1539	0.1865
10	0.150	0.000	561.7	3.276E+00	4.322E-03	5.233E-03	0.1196	0.1448
16	0.192	0.000	559.4	3.002E+00	3.948E-03	4.778E-03	0.1093	0.1322
20	0.250	0.000	562.0	2.777E+00	3.666E-03	4.439E-03	0.1014	0.1228
23	0.300	0.000	561.9	2.779E+00	3.667E-03	4.440E-03	0.1015	0.1229
30	0.350	0.000	565.6	2.621E+00	3.476E-03	4.213E-03	0.0962	0.1166
31	0.400	0.000	564.6	2.382E+00	3.154E-03	3.822E-03	0.0873	0.1058
33	0.450	0.000	567.9	2.344E+00	3.118E-03	3.783E-03	0.0863	0.1047
34	0.500	0.000	572.3	2.625E+00	3.512E-03	4.265E-03	0.0972	0.1180
37	0.550	0.000	576.1	2.997E+00	4.031E-03	4.901E-03	0.1116	0.1356
38	0.600	0.000	580.9	3.495E+00	4.731E-03	5.759E-03	0.1309	0.1594
40	0.650	0.000	586.4	4.036E+00	5.505E-03	6.713E-03	0.1523	0.1858
41	0.700	0.000	592.3	4.809E+00	6.612E-03	8.077E-03	0.1830	0.2235
43	0.750	0.000	593.6	5.353E+00	7.372E-03	9.010E-03	0.2040	0.2493
46	0.850	0.000	601.8	6.044E+00	8.420E-03	1.032E-02	0.2330	0.2855
49	0.950	0.000	599.4	4.968E+00	6.897E-03	8.444E-03	0.1909	0.2337
86	0.125	0.055	574.9	6.241E+00	8.380E-03	1.018E-02	0.2319	0.2818
11	0.150	0.091	562.1	3.795E+00	5.010E-03	6.066E-03	0.1386	0.1679
17	0.192	0.107	569.8	4.746E+00	6.329E-03	7.681E-03	0.1752	0.2126
87	0.300	-0.106	563.4	3.299E+00	4.362E-03	5.284E-03	0.1207	0.1462
88	0.300	0.061	568.6	3.872E+00	5.155E-03	6.254E-03	0.1427	0.1731
89	0.300	0.122	581.8	7.592E+00	1.029E-02	1.253E-02	0.2848	0.3468
24	0.300	0.160	579.1	7.405E+00	1.000E-02	1.217E-02	0.2768	0.3368
25	0.300	0.221	575.0	6.188E+00	8.310E-03	1.010E-02	0.2300	0.2795
90	0.400	-0.107	565.9	2.688E+00	3.566E-03	4.323E-03	0.0987	0.1196
32	0.400	0.107	579.4	6.038E+00	8.156E-03	9.925E-03	0.2257	0.2747
52	0.400	0.250	584.4	6.851E+00	9.317E-03	1.136E-02	0.2579	0.3143
91	0.425	0.061	574.3	3.982E+00	5.342E-03	6.491E-03	0.1478	0.1796
92	0.425	0.178	586.1	7.305E+00	9.957E-03	1.214E-02	0.2756	0.3360
93	0.500	-0.107	569.2	2.094E+00	2.790E-03	3.385E-03	0.0772	0.0937
35	0.500	0.107	584.7	6.080E+00	8.272E-03	1.008E-02	0.2289	0.2790
94	0.500	0.178	590.2	7.346E+00	1.007E-02	1.230E-02	0.2787	0.3403
53	0.500	0.250	591.6	7.288E+00	1.001E-02	1.223E-02	0.2770	0.3384
95	0.600	-0.250	572.2	2.328E+00	3.115E-03	3.783E-03	0.0862	0.1047
39	0.600	0.107	593.9	6.877E+00	9.476E-03	1.158E-02	0.2623	0.3205

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:10:36
DATE RECORDED: 9-JUN-95
TIME RECORDED: 22:22:46
000011232

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
147	S6R27	C-4	29-O	7.98	459.8	1319.67	30.00	-5.06	35.06	179.93

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.048	2.129	3874	4.085E-05	7.900E-08	2.0035E+06	3.770E+06	3.613E-02	0.415

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	597.8	7.436E+00	1.030E-02	1.261E-02	0.2851	0.3489
98	0.660	-0.107	577.9	2.338E+00	3.152E-03	3.834E-03	0.0872	0.1061
96	0.660	0.107	599.2	6.861E+00	9.523E-03	1.166E-02	0.2636	0.3227
97	0.660	0.250	603.3	7.222E+00	1.008E-02	1.236E-02	0.2790	0.3420
60	0.660	0.400	611.8	8.713E+00	1.231E-02	1.513E-02	0.3407	0.4187
65	0.700	0.500	627.2	1.104E+01	1.594E-02	1.969E-02	0.4412	0.5450
99	0.750	0.178	605.7	6.758E+00	9.466E-03	1.161E-02	0.2620	0.3214
100	0.755	0.400	617.1	7.964E+00	1.134E-02	1.396E-02	0.3137	0.3863
101	0.800	-0.250	581.7	2.344E+00	3.176E-03	3.867E-03	0.0879	0.1070
45	0.800	0.107	604.2	6.464E+00	9.035E-03	1.108E-02	0.2500	0.3066
56	0.800	0.250	607.8	7.128E+00	1.001E-02	1.229E-02	0.2771	0.3402
66	0.800	0.500	621.7	8.867E+00	1.270E-02	1.567E-02	0.3516	0.4336
70	0.800	0.600	632.0	9.989E+00	1.453E-02	1.798E-02	0.4020	0.4975
75	0.800	0.750	632.5	1.021E+01	1.485E-02	1.838E-02	0.4111	0.5088
102	0.886	0.732	624.0	7.960E+00	1.144E-02	1.412E-02	0.3167	0.3908
103	0.900	-0.107	588.9	3.890E+00	5.323E-03	6.496E-03	0.1473	0.1798
57	0.900	0.250	606.2	6.149E+00	8.618E-03	1.057E-02	0.2385	0.2926

RUN 147

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06 10 44
DATE RECORDED: 9-JUN-95
TIME RECORDED: 22:32 49
00001123

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
148	S6R29	C-4	29-O	7.98	455.9	1319.67	30.00	-10.05	40.05	179.94

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.047	2.111	3874.	4.051E-05	7.901E-08	1.9867E+06	3.738E+06	3.598E-02	0.412

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	575.8	8.168E+00	1.098E-02	1.335E-02	0.3052	0.3710
6	0.060	0.000	567.6	6.168E+00	8.202E-03	9.947E-03	0.2279	0.2764
7	0.080	0.000	563.1	5.429E+00	7.175E-03	8.691E-03	0.1994	0.2415
8	0.100	0.000	560.8	4.821E+00	6.353E-03	7.690E-03	0.1766	0.2137
10	0.150	0.000	557.4	3.847E+00	5.047E-03	6.103E-03	0.1403	0.1696
16	0.192	0.000	555.7	3.504E+00	4.587E-03	5.544E-03	0.1275	0.1541
20	0.250	0.000	559.8	3.409E+00	4.486E-03	5.429E-03	0.1247	0.1509
23	0.300	0.000	560.5	3.139E+00	4.134E-03	5.004E-03	0.1149	0.1391
30	0.350	0.000	565.5	3.069E+00	4.070E-03	4.933E-03	0.1131	0.1371
31	0.400	0.000	564.8	2.759E+00	3.655E-03	4.429E-03	0.1016	0.1231
33	0.450	0.000	568.7	2.775E+00	3.695E-03	4.483E-03	0.1027	0.1246
34	0.500	0.000	571.7	2.779E+00	3.715E-03	4.511E-03	0.1032	0.1254
37	0.550	0.000	574.7	2.856E+00	3.834E-03	4.660E-03	0.1066	0.1295
38	0.600	0.000	578.5	2.852E+00	3.849E-03	4.682E-03	0.1070	0.1301
40	0.650	0.000	583.2	3.036E+00	4.122E-03	5.022E-03	0.1146	0.1396
41	0.700	0.000	587.5	3.319E+00	4.532E-03	5.529E-03	0.1260	0.1537
43	0.750	0.000	588.9	3.544E+00	4.850E-03	5.919E-03	0.1348	0.1645
46	0.850	0.000	598.5	4.493E+00	6.230E-03	7.626E-03	0.1731	0.2119
49	0.950	0.000	599.2	4.621E+00	6.414E-03	7.853E-03	0.1783	0.2182
86	0.125	0.055	572.0	7.342E+00	9.820E-03	1.192E-02	0.2729	0.3314
11	0.150	0.091	558.4	4.577E+00	6.012E-03	7.273E-03	0.1671	0.2021
17	0.192	0.107	568.4	6.108E+00	8.131E-03	9.864E-03	0.2260	0.2741
87	0.300	-0.106	562.6	3.796E+00	5.014E-03	6.072E-03	0.1393	0.1688
88	0.300	0.061	564.7	3.624E+00	4.800E-03	5.817E-03	0.1334	0.1617
89	0.300	0.122	576.8	6.929E+00	9.327E-03	1.134E-02	0.2592	0.3152
24	0.300	0.160	576.8	7.470E+00	1.006E-02	1.223E-02	0.2794	0.3398
25	0.300	0.221	575.3	6.949E+00	9.335E-03	1.135E-02	0.2594	0.3153
90	0.400	-0.107	566.3	3.110E+00	4.128E-03	5.004E-03	0.1147	0.1391
32	0.400	0.107	573.0	4.636E+00	6.209E-03	7.542E-03	0.1726	0.2096
52	0.400	0.250	584.0	7.304E+00	9.929E-03	1.210E-02	0.2759	0.3362
91	0.425	0.061	570.6	3.323E+00	4.436E-03	5.384E-03	0.1233	0.1496
92	0.425	0.178	584.8	7.305E+00	9.940E-03	1.212E-02	0.2762	0.3367
93	0.500	-0.107	569.6	2.500E+00	3.333E-03	4.044E-03	0.0926	0.1124
35	0.500	0.107	576.9	4.370E+00	5.883E-03	7.154E-03	0.1635	0.1988
94	0.500	0.178	588.2	7.200E+00	9.842E-03	1.201E-02	0.2735	0.3337
53	0.500	0.250	591.1	7.685E+00	1.055E-02	1.288E-02	0.2932	0.3580
95	0.600	-0.250	574.1	2.563E+00	3.438E-03	4.177E-03	0.0955	0.1161
39	0.600	0.107	587.0	5.005E+00	6.831E-03	8.332E-03	0.1899	0.2316

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:10:44
DATE RECORDED: 9-JUN-95
TIME RECORDED: 22:32:49
000011234

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
148	S6R29	C-4	29-O	7.98	455.9	1319.67	30.00	-10.05	40.05	179.94

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.047	2.111	3874.	4.051E-05	7.901E-08	1.9867E+06	3.738E+06	3.598E-02	0.412

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	598.0	7.782E+00	1.078E-02	1.320E-02	0.2997	0.3668
98	0.660	-0.107	580.1	2.705E+00	3.657E-03	4.451E-03	0.1016	0.1237
96	0.660	0.107	594.3	5.668E+00	7.814E-03	9.552E-03	0.2172	0.2655
97	0.660	0.250	604.6	7.708E+00	1.078E-02	1.322E-02	0.2996	0.3674
60	0.660	0.400	612.5	9.158E+00	1.295E-02	1.592E-02	0.3599	0.4425
65	0.700	0.500	625.1	1.122E+01	1.618E-02	1.999E-02	0.4498	0.5555
99	0.750	0.178	606.0	6.814E+00	9.548E-03	1.171E-02	0.2653	0.3255
100	0.755	0.400	618.0	8.397E+00	1.197E-02	1.474E-02	0.3326	0.4096
101	0.800	-0.250	586.0	2.873E+00	3.916E-03	4.774E-03	0.1088	0.1327
45	0.800	0.107	603.7	6.065E+00	8.471E-03	1.038E-02	0.2354	0.2886
56	0.800	0.250	610.5	7.503E+00	1.058E-02	1.300E-02	0.2940	0.3612
66	0.800	0.500	622.9	9.015E+00	1.294E-02	1.596E-02	0.3595	0.4436
70	0.800	0.600	631.3	1.018E+01	1.479E-02	1.830E-02	0.4110	0.5085
75	0.800	0.750	634.3	1.111E+01	1.621E-02	2.007E-02	0.4504	0.5578
102	0.886	0.732	623.9	8.370E+00	1.203E-02	1.485E-02	0.3344	0.4126
103	0.900	-0.107	590.1	3.622E+00	4.964E-03	6.060E-03	0.1380	0.1684
57	0.900	0.250	610.5	6.670E+00	9.405E-03	1.156E-02	0.2614	0.3211

RUN 148

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:10:49
DATE RECORDED: 9-JUN-95
TIME RECORDED: 22:40:22
00001235

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
149	S6R31	C-4	29-0	7.98	460.9	1319.67	30.00	-10.04	40.04	179.96

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.048	2.134	3874.	4.095E-05	7.900E-08	2.0082E+06	3.779E+06	3.618E-02	0.415

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	581.5	8.004E+00	1.084E-02	1.320E-02	0.2998	0.3650
6	0.060	0.000	573.3	6.065E+00	8.126E-03	9.871E-03	0.2246	0.2729
7	0.080	0.000	567.6	5.299E+00	7.045E-03	8.544E-03	0.1947	0.2362
8	0.100	0.000	564.8	4.735E+00	6.272E-03	7.600E-03	0.1734	0.2101
10	0.150	0.000	560.3	3.885E+00	5.116E-03	6.192E-03	0.1414	0.1712
16	0.192	0.000	557.5	3.451E+00	4.528E-03	5.476E-03	0.1252	0.1514
20	0.250	0.000	562.0	3.245E+00	4.283E-03	5.186E-03	0.1184	0.1434
23	0.300	0.000	563.8	3.119E+00	4.127E-03	5.000E-03	0.1141	0.1382
30	0.350	0.000	570.1	2.953E+00	3.940E-03	4.781E-03	0.1089	0.1322
31	0.400	0.000	569.7	2.843E+00	3.790E-03	4.600E-03	0.1048	0.1271
33	0.450	0.000	574.2	3.027E+00	4.061E-03	4.934E-03	0.1122	0.1364
34	0.500	0.000	579.2	3.648E+00	4.927E-03	5.996E-03	0.1362	0.1657
37	0.550	0.000	583.5	4.042E+00	5.490E-03	6.689E-03	0.1518	0.1849
38	0.600	0.000	590.3	4.765E+00	6.533E-03	7.976E-03	0.1806	0.2205
40	0.650	0.000	596.5	5.288E+00	7.313E-03	8.945E-03	0.2021	0.2473
41	0.700	0.000	602.6	5.901E+00	8.229E-03	1.008E-02	0.2275	0.2788
43	0.750	0.000	604.3	6.157E+00	8.608E-03	1.055E-02	0.2379	0.2918
46	0.850	0.000	613.9	6.637E+00	9.403E-03	1.157E-02	0.2599	0.3197
49	0.950	0.000	608.2	5.679E+00	7.982E-03	9.799E-03	0.2206	0.2709
86	0.125	0.055	575.7	7.409E+00	9.959E-03	1.211E-02	0.2753	0.3347
11	0.150	0.091	561.8	4.686E+00	6.183E-03	7.487E-03	0.1709	0.2070
17	0.192	0.107	571.2	6.064E+00	8.102E-03	9.836E-03	0.2240	0.2719
87	0.300	-0.106	564.8	3.619E+00	4.794E-03	5.810E-03	0.1325	0.1606
88	0.300	0.061	573.9	4.983E+00	6.682E-03	8.118E-03	0.1847	0.2244
89	0.300	0.122	583.8	7.807E+00	1.061E-02	1.293E-02	0.2933	0.3574
24	0.300	0.160	581.5	7.754E+00	1.050E-02	1.279E-02	0.2904	0.3536
25	0.300	0.221	580.0	7.149E+00	9.666E-03	1.176E-02	0.2672	0.3252
90	0.400	-0.107	570.1	3.067E+00	4.091E-03	4.965E-03	0.1131	0.1373
32	0.400	0.107	586.1	6.900E+00	9.405E-03	1.147E-02	0.2600	0.3170
52	0.400	0.250	589.4	7.360E+00	1.008E-02	1.230E-02	0.2786	0.3401
91	0.425	0.061	582.2	5.167E+00	7.007E-03	8.534E-03	0.1937	0.2359
92	0.425	0.178	590.7	7.974E+00	1.094E-02	1.336E-02	0.3024	0.3692
93	0.500	-0.107	573.1	2.499E+00	3.347E-03	4.066E-03	0.0925	0.1124
35	0.500	0.107	589.9	6.893E+00	9.446E-03	1.153E-02	0.2611	0.3188
94	0.500	0.178	595.5	7.925E+00	1.094E-02	1.338E-02	0.3025	0.3700
53	0.500	0.250	596.4	7.761E+00	1.073E-02	1.313E-02	0.2966	0.3628
95	0.600	-0.250	577.5	2.485E+00	3.348E-03	4.073E-03	0.0926	0.1126
39	0.600	0.107	600.4	7.332E+00	1.019E-02	1.248E-02	0.2818	0.3451

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:10:49
DATE RECORDED: 9-JUN-95
TIME RECORDED: 22:40:22
00001126

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
149	S6R31	C-4	29-0	7.98	460.9	1319.67	30.00	-10.04	40.04	179.96

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.048	2.134	3874	4.095E-05	7.900E-08	2.0082E+06	3.779E+06	3.618E-02	0.415

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	603.7	7.764E+00	1.084E-02	1.329E-02	0.2997	0.3675
98	0.660	-0.107	586.8	3.152E+00	4.300E-03	5.245E-03	0.1189	0.1450
96	0.660	0.107	606.5	7.510E+00	1.053E-02	1.292E-02	0.2911	0.3572
97	0.660	0.250	611.2	7.781E+00	1.098E-02	1.350E-02	0.3036	0.3731
60	0.660	0.400	620.4	9.130E+00	1.306E-02	1.609E-02	0.3609	0.4448
65	0.700	0.500	636.4	1.090E+01	1.595E-02	1.977E-02	0.4410	0.5465
99	0.750	0.178	615.2	7.282E+00	1.034E-02	1.272E-02	0.2857	0.3516
100	0.755	0.400	629.1	8.296E+00	1.201E-02	1.485E-02	0.3321	0.4105
101	0.800	-0.250	593.4	3.131E+00	4.311E-03	5.268E-03	0.1192	0.1456
45	0.800	0.107	614.3	7.102E+00	1.007E-02	1.239E-02	0.2783	0.3424
56	0.800	0.250	619.4	7.508E+00	1.072E-02	1.321E-02	0.2964	0.3652
66	0.800	0.500	637.2	8.868E+00	1.299E-02	1.611E-02	0.3592	0.4453
70	0.800	0.600	644.8	1.002E+01	1.485E-02	1.846E-02	0.4105	0.5103
75	0.800	0.750	650.7	1.065E+01	1.592E-02	1.984E-02	0.4402	0.5484
102	0.886	0.732	638.2	8.268E+00	1.213E-02	1.505E-02	0.3354	0.4159
103	0.900	-0.107	602.6	5.102E+00	7.115E-03	8.720E-03	0.1967	0.2410
57	0.900	0.250	619.3	6.500E+00	9.280E-03	1.143E-02	0.2565	0.3161

RUN 149

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:10:53
DATE RECORDED: 9-JUN-95
TIME RECORDED: 23:01:30
000011237

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
150	S3R 1	A-2	29-0	7.99	576.3	1319.67	30.00	9.95	39.95	-0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.9	0.059	2.656	3876.	5.093E-05	7.879E-08	2.5053E+06	4.714E+06	4.036E-02	0.413

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	586.0	9.816E+00	1.338E-02	1.631E-02	0.3315	0.4042
6	0.060	0.000	575.9	7.522E+00	1.011E-02	1.230E-02	0.2506	0.3046
7	0.080	0.000	576.0	7.545E+00	1.015E-02	1.233E-02	0.2514	0.3056
8	0.100	0.000	575.5	7.224E+00	9.707E-03	1.180E-02	0.2405	0.2923
10	0.150	0.000	573.7	6.471E+00	8.674E-03	1.054E-02	0.2149	0.2611
16	0.192	0.000	575.2	7.114E+00	9.557E-03	1.162E-02	0.2368	0.2878
20	0.250	0.000	586.0	9.162E+00	1.249E-02	1.523E-02	0.3094	0.3773
23	0.300	0.000	584.5	8.857E+00	1.205E-02	1.468E-02	0.2985	0.3638
30	0.350	0.000	588.2	9.150E+00	1.251E-02	1.526E-02	0.3099	0.3782
31	0.400	0.000	587.1	9.051E+00	1.235E-02	1.507E-02	0.3061	0.3734
33	0.450	0.000	592.6	9.731E+00	1.338E-02	1.635E-02	0.3316	0.4051
34	0.500	0.000	593.3	9.423E+00	1.297E-02	1.585E-02	0.3214	0.3927
37	0.550	0.000	592.9	9.032E+00	1.243E-02	1.519E-02	0.3079	0.3762
38	0.600	0.000	598.7	9.183E+00	1.274E-02	1.559E-02	0.3156	0.3863
40	0.650	0.000	602.7	9.002E+00	1.256E-02	1.539E-02	0.3111	0.3813
41	0.700	0.000	604.3	8.805E+00	1.231E-02	1.509E-02	0.3050	0.3740
43	0.750	0.000	601.4	8.602E+00	1.198E-02	1.467E-02	0.2967	0.3635
46	0.850	0.000	604.7	8.586E+00	1.201E-02	1.473E-02	0.2975	0.3649
49	0.950	0.000	597.2	6.827E+00	9.449E-03	1.156E-02	0.2341	0.2864
86	0.125	0.055	569.2	5.497E+00	7.324E-03	8.887E-03	0.1815	0.2202
11	0.150	0.091	564.6	5.117E+00	6.777E-03	8.213E-03	0.1679	0.2035
17	0.192	0.107	566.7	4.699E+00	6.240E-03	7.566E-03	0.1546	0.1875
87	0.300	-0.106	565.1	4.410E+00	5.845E-03	7.084E-03	0.1448	0.1755
88	0.300	0.061	585.0	8.548E+00	1.163E-02	1.418E-02	0.2883	0.3514
89	0.300	0.122	572.9	5.838E+00	7.818E-03	9.497E-03	0.1937	0.2353
24	0.300	0.160	567.0	4.822E+00	6.407E-03	7.769E-03	0.1587	0.1925
25	0.300	0.221	566.7	4.770E+00	6.335E-03	7.681E-03	0.1570	0.1903
90	0.400	-0.107	581.3	7.448E+00	1.009E-02	1.228E-02	0.2499	0.3043
32	0.400	0.107	589.2	9.357E+00	1.281E-02	1.563E-02	0.3174	0.3874
52	0.400	0.250	574.4	5.295E+00	7.105E-03	8.634E-03	0.1760	0.2139
91	0.425	0.061	589.5	9.005E+00	1.233E-02	1.505E-02	0.3056	0.3730
92	0.425	0.178	589.0	9.056E+00	1.239E-02	1.513E-02	0.3071	0.3748
93	0.500	-0.107	591.2	8.965E+00	1.231E-02	1.503E-02	0.3049	0.3724
35	0.500	0.107	590.5	8.944E+00	1.227E-02	1.498E-02	0.3039	0.3711
94	0.500	0.178	595.2	9.831E+00	1.357E-02	1.659E-02	0.3362	0.4111
53	0.500	0.250	594.7	9.443E+00	1.303E-02	1.592E-02	0.3227	0.3946
95	0.600	-0.250	597.0	8.913E+00	1.233E-02	1.509E-02	0.3056	0.3738
39	0.600	0.107	598.9	9.269E+00	1.286E-02	1.574E-02	0.3186	0.3900

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:10:53
DATE RECORDED: 9-JUN-95
TIME RECORDED: 23:01:30
0000112.58

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND. (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
150	S3R 1	A-2	29-0	7.99	576.3	1319.67	30.00	9.95	39.95	-0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.9	0.059	2.656	3876.	5.093E-05	7.879E-08	2.5053E+06	4.714E+06	4.036E-02	0.413

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	601.1	9.759E+00	1.358E-02	1.664E-02	0.3365	0.4122
98	0.660	-0.107	602.4	8.987E+00	1.253E-02	1.535E-02	0.3104	0.3804
96	0.660	0.107	604.4	9.205E+00	1.287E-02	1.578E-02	0.3189	0.3910
97	0.660	0.250	606.9	9.647E+00	1.354E-02	1.661E-02	0.3354	0.4116
60	0.660	0.400	614.1	1.137E+01	1.611E-02	1.982E-02	0.3993	0.4911
65	0.700	0.500	620.2	1.345E+01	1.923E-02	2.370E-02	0.4765	0.5873
99	0.750	0.178	606.0	8.908E+00	1.248E-02	1.531E-02	0.3093	0.3794
100	0.755	0.400	611.8	1.063E+01	1.502E-02	1.847E-02	0.3722	0.4575
101	0.800	-0.250	603.7	9.543E+00	1.333E-02	1.634E-02	0.3303	0.4049
45	0.800	0.107	604.2	8.597E+00	1.202E-02	1.473E-02	0.2977	0.3651
56	0.800	0.250	606.5	9.362E+00	1.313E-02	1.611E-02	0.3252	0.3991
66	0.800	0.500	612.1	1.104E+01	1.560E-02	1.917E-02	0.3865	0.4751
70	0.800	0.600	615.9	1.214E+01	1.725E-02	2.123E-02	0.4274	0.5260
75	0.800	0.750	617.1	1.291E+01	1.838E-02	2.263E-02	0.4553	0.5606
102	0.886	0.732	601.5	1.006E+01	1.400E-02	1.715E-02	0.3469	0.4250
103	0.900	-0.107	596.4	7.314E+00	1.011E-02	1.237E-02	0.2506	0.3065
57	0.900	0.250	603.9	8.105E+00	1.132E-02	1.388E-02	0.2806	0.3440

RUN 150

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:10:56
DATE RECORDED: 9-JUN-95
TIME RECORDED: 23:05:52
00001123

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-FREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
151	S3R 3	A-2	29-0	7.99	574.3	1319.67	30.00	4.93	34.93	0.00

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.1	0.059	2.647	3876.	5.076E-05	7.879E-08	2.4967E+06	4.698E+06	4.029E-02	0.396

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	582.5	8.944E+00	1.213E-02	1.478E-02	0.3011	0.3668
6	0.060	0.000	570.6	6.885E+00	9.190E-03	1.116E-02	0.2281	0.2769
7	0.080	0.000	565.5	6.974E+00	9.247E-03	1.121E-02	0.2295	0.2782
8	0.100	0.000	558.9	7.048E+00	9.265E-03	1.121E-02	0.2300	0.2782
10	0.150	0.000	544.6	6.822E+00	8.802E-03	1.061E-02	0.2185	0.2633
16	0.192	0.000	539.8	7.249E+00	9.295E-03	1.119E-02	0.2307	0.2777
20	0.250	0.000	553.4	8.850E+00	1.155E-02	1.395E-02	0.2866	0.3463
23	0.300	0.000	557.8	8.275E+00	1.086E-02	1.314E-02	0.2696	0.3261
30	0.350	0.000	572.3	8.252E+00	1.104E-02	1.341E-02	0.2740	0.3328
31	0.400	0.000	578.0	8.171E+00	1.102E-02	1.340E-02	0.2734	0.3326
33	0.450	0.000	584.0	8.794E+00	1.195E-02	1.457E-02	0.2967	0.3615
34	0.500	0.000	580.0	8.747E+00	1.183E-02	1.439E-02	0.2935	0.3572
37	0.550	0.000	577.8	8.376E+00	1.129E-02	1.373E-02	0.2802	0.3408
38	0.600	0.000	585.1	8.532E+00	1.162E-02	1.416E-02	0.2883	0.3514
40	0.650	0.000	592.1	8.295E+00	1.140E-02	1.393E-02	0.2830	0.3457
41	0.700	0.000	599.9	8.124E+00	1.129E-02	1.382E-02	0.2801	0.3430
43	0.750	0.000	598.1	7.810E+00	1.082E-02	1.325E-02	0.2686	0.3288
46	0.850	0.000	601.4	7.726E+00	1.076E-02	1.318E-02	0.2669	0.3270
49	0.950	0.000	590.2	5.952E+00	8.160E-03	9.962E-03	0.2025	0.2472
86	0.125	0.055	544.8	5.128E+00	6.618E-03	7.977E-03	0.1643	0.1980
11	0.150	0.091	536.4	4.852E+00	6.195E-03	7.450E-03	0.1538	0.1849
17	0.192	0.107	538.5	4.378E+00	5.604E-03	6.744E-03	0.1391	0.1674
87	0.300	-0.106	540.6	3.801E+00	4.879E-03	5.874E-03	0.1211	0.1458
88	0.300	0.061	557.8	7.708E+00	1.012E-02	1.224E-02	0.2511	0.3037
89	0.300	0.122	544.8	4.400E+00	5.679E-03	6.844E-03	0.1409	0.1699
24	0.300	0.160	542.1	4.164E+00	5.355E-03	6.450E-03	0.1329	0.1601
25	0.300	0.221	545.8	4.281E+00	5.531E-03	6.669E-03	0.1373	0.1655
90	0.400	-0.107	569.8	6.002E+00	8.003E-03	9.712E-03	0.1986	0.2410
32	0.400	0.107	580.2	8.191E+00	1.108E-02	1.348E-02	0.2749	0.3346
52	0.400	0.250	562.1	3.827E+00	5.052E-03	6.118E-03	0.1254	0.1518
91	0.425	0.061	582.9	8.126E+00	1.103E-02	1.344E-02	0.2737	0.3335
92	0.425	0.178	575.0	6.982E+00	9.375E-03	1.139E-02	0.2327	0.2828
93	0.500	-0.107	578.3	8.285E+00	1.117E-02	1.359E-02	0.2773	0.3374
35	0.500	0.107	578.0	8.383E+00	1.130E-02	1.375E-02	0.2805	0.3412
94	0.500	0.178	581.8	9.184E+00	1.245E-02	1.516E-02	0.3089	0.3762
53	0.500	0.250	575.2	7.431E+00	9.982E-03	1.213E-02	0.2477	0.3011
95	0.600	-0.250	585.4	7.318E+00	9.966E-03	1.215E-02	0.2474	0.3015
39	0.600	0.107	584.9	8.717E+00	1.186E-02	1.446E-02	0.2944	0.3589

CALSPAN CORP/AEDC OPERATIONS
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ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:10:56
DATE RECORDED: 9-JUN-95
TIME RECORDED: 23:05:52
000011240

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
151	S3R 3	A-2	29-O	7.99	574.3	1319.67	30.00	4.93	34.93	0.00

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.9	0.059	2.647	3876.	5.076E-05	7.879E-08	2.4967E+06	4.698E+06	4.029E-02	0.396

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	588.0	9.105E+00	1.244E-02	1.518E-02	0.3089	0.3768
98	0.660	-0.107	596.9	8.305E+00	1.149E-02	1.406E-02	0.2852	0.3489
96	0.660	0.107	595.5	8.591E+00	1.186E-02	1.451E-02	0.2944	0.3600
97	0.660	0.250	598.2	9.021E+00	1.250E-02	1.530E-02	0.3103	0.3798
60	0.660	0.400	604.5	1.033E+01	1.444E-02	1.771E-02	0.3585	0.4396
65	0.700	0.500	613.0	1.179E+01	1.669E-02	2.052E-02	0.4141	0.5092
99	0.750	0.178	603.1	8.204E+00	1.145E-02	1.403E-02	0.2841	0.3483
100	0.755	0.400	609.9	1.013E+01	1.427E-02	1.753E-02	0.3542	0.4351
101	0.800	-0.250	604.5	8.936E+00	1.249E-02	1.532E-02	0.3101	0.3802
45	0.800	0.107	600.3	7.800E+00	1.084E-02	1.328E-02	0.2691	0.3296
56	0.800	0.250	603.3	8.740E+00	1.220E-02	1.496E-02	0.3028	0.3712
66	0.800	0.500	609.5	1.053E+01	1.482E-02	1.820E-02	0.3678	0.4518
70	0.800	0.600	613.0	1.128E+01	1.596E-02	1.962E-02	0.3961	0.4871
75	0.800	0.750	612.4	1.056E+01	1.493E-02	1.835E-02	0.3705	0.4555
102	0.886	0.732	596.5	9.262E+00	1.281E-02	1.567E-02	0.3179	0.3888
103	0.900	-0.107	593.5	6.476E+00	8.919E-03	1.090E-02	0.2213	0.2705
57	0.900	0.250	599.1	7.340E+00	1.019E-02	1.247E-02	0.2528	0.3095

RUN 151

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:10:59
DATE RECORDED: 9-JUN 95
TIME RECORDED: 23:12:20
000011241

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
152	S3R 5	A-2	29-O	7.98	462.2	1320.67	30.00	9.97	39.97	-0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.048	2.140	3876.	4.103E-05	7.906E-08	2.0113E+06	3.785E+06	3.623E-02	0.399

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	577.9	8.877E+00	1.195E-02	1.454E-02	0.3299	0.4012
6	0.060	0.000	565.7	6.442E+00	8.532E-03	1.034E-02	0.2355	0.2854
7	0.080	0.000	556.8	5.258E+00	6.884E-03	8.323E-03	0.1900	0.2297
8	0.100	0.000	553.1	4.927E+00	6.419E-03	7.753E-03	0.1772	0.2140
10	0.150	0.000	545.9	4.040E+00	5.215E-03	6.287E-03	0.1439	0.1735
16	0.192	0.000	539.0	3.632E+00	4.646E-03	5.591E-03	0.1282	0.1543
20	0.250	0.000	542.4	3.631E+00	4.665E-03	5.618E-03	0.1288	0.1551
23	0.300	0.000	543.3	3.433E+00	4.416E-03	5.320E-03	0.1219	0.1468
30	0.350	0.000	551.9	3.391E+00	4.411E-03	5.326E-03	0.1218	0.1470
31	0.400	0.000	552.9	3.036E+00	3.954E-03	4.776E-03	0.1091	0.1318
33	0.450	0.000	558.0	3.200E+00	4.195E-03	5.074E-03	0.1158	0.1401
34	0.500	0.000	562.5	3.415E+00	4.504E-03	5.454E-03	0.1243	0.1505
37	0.550	0.000	564.5	3.301E+00	4.366E-03	5.290E-03	0.1205	0.1460
38	0.600	0.000	572.7	3.479E+00	4.652E-03	5.650E-03	0.1284	0.1559
40	0.650	0.000	581.0	3.479E+00	4.703E-03	5.726E-03	0.1298	0.1580
41	0.700	0.000	584.2	3.621E+00	4.917E-03	5.991E-03	0.1357	0.1654
43	0.750	0.000	585.8	3.702E+00	5.038E-03	6.141E-03	0.1390	0.1695
46	0.850	0.000	591.9	4.212E+00	5.779E-03	7.058E-03	0.1595	0.1948
49	0.950	0.000	583.9	4.291E+00	5.824E-03	7.096E-03	0.1608	0.1959
86	0.125	0.055	553.3	5.055E+00	6.587E-03	7.956E-03	0.1818	0.2196
11	0.150	0.091	546.3	4.681E+00	6.045E-03	7.288E-03	0.1669	0.2012
17	0.192	0.107	546.8	4.339E+00	5.608E-03	6.762E-03	0.1548	0.1866
87	0.300	-0.106	544.8	3.813E+00	4.914E-03	5.922E-03	0.1356	0.1635
88	0.300	0.061	547.1	3.622E+00	4.682E-03	5.646E-03	0.1292	0.1558
89	0.300	0.122	549.3	4.105E+00	5.322E-03	6.422E-03	0.1469	0.1773
24	0.300	0.160	547.4	4.208E+00	5.442E-03	6.563E-03	0.1502	0.1811
25	0.300	0.221	548.8	4.274E+00	5.538E-03	6.681E-03	0.1528	0.1844
90	0.400	-0.107	554.3	3.156E+00	4.119E-03	4.976E-03	0.1137	0.1373
32	0.400	0.107	554.2	3.259E+00	4.252E-03	5.137E-03	0.1174	0.1418
52	0.400	0.250	558.0	3.796E+00	4.978E-03	6.020E-03	0.1374	0.1662
91	0.425	0.061	558.5	3.285E+00	4.311E-03	5.214E-03	0.1190	0.1439
92	0.425	0.178	557.1	3.706E+00	4.853E-03	5.867E-03	0.1339	0.1620
93	0.500	-0.107	560.0	2.802E+00	3.683E-03	4.457E-03	0.1017	0.1230
35	0.500	0.107	558.3	3.029E+00	3.973E-03	4.806E-03	0.1097	0.1327
94	0.500	0.178	561.0	3.596E+00	4.734E-03	5.730E-03	0.1307	0.1582
53	0.500	0.250	562.2	3.641E+00	4.800E-03	5.812E-03	0.1325	0.1604
95	0.600	-0.250	571.3	2.896E+00	3.865E-03	4.691E-03	0.1067	0.1295
39	0.600	0.107	571.7	3.534E+00	4.718E-03	5.729E-03	0.1302	0.1581

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06.10.59
DATE RECORDED: 9-JUN 95
TIME RECORDED: 23:12.20
000011242

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
152	S3R 5	A-2	29-0	7.98	462.2	1320 67	30.00	9 97	39.97	-0 04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.2	0.048	2.140	3876.	4.103E-05	7.906E-08	2.0113E+06	3.785E+06	3.623E-02	0 399

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	569.8	3.363E+00	4.479E-03	5.435E-03	0.1236	0.1500
98	0.660	-0.107	583.2	3.427E+00	4.647E-03	5.661E-03	0.1283	0.1563
96	0.660	0.107	581.1	3.936E+00	5.321E-03	6.478E-03	0.1469	0.1788
97	0.660	0.250	581.1	3.305E+00	4.469E-03	5.440E-03	0.1233	0.1502
60	0.660	0.400	584.6	3.953E+00	5.370E-03	6.544E-03	0.1482	0.1806
65	0.700	0.500	588.7	4.575E+00	6.251E-03	7.626E-03	0.1725	0.2105
99	0.750	0.178	585.5	3.646E+00	4.960E-03	6.046E-03	0.1369	0.1669
100	0.755	0.400	588.1	3.700E+00	5.051E-03	6.161E-03	0.1394	0.1701
101	0.800	-0.250	589.4	3.783E+00	5.173E-03	6.313E-03	0.1428	0.1743
45	0.800	0.107	586.7	3.802E+00	5.180E-03	6.316E-03	0.1430	0.1743
56	0.800	0.250	588.7	4.214E+00	5.757E-03	7.024E-03	0.1589	0.1939
66	0.800	0.500	589.0	3.984E+00	5.445E-03	6.645E-03	0.1503	0.1834
70	0.800	0.600	589.9	4.303E+00	5.888E-03	7.187E-03	0.1625	0.1984
75	0.800	0.750	592.2	4.254E+00	5.839E-03	7.133E-03	0.1612	0.1969
102	0.886	0.732	582.9	3.906E+00	5.294E-03	6.448E-03	0.1461	0.1780
103	0.900	-0.107	586.2	4.158E+00	5.661E-03	6.902E-03	0.1563	0.1905
57	0.900	0.250	592.1	4.936E+00	6.774E-03	8.274E-03	0.1870	0.2284

RUN 152

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:11:02
DATE RECORDED: 9-JUN-95
TIME RECORDED: 23:16:21
000011243

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
153	S3R 9	A-2	29-O	7.97	376.8	1295.67	30.00	9.96	39.96	-0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (PN=0.0175FT)	TW/TT
96.5	0.039	1.753	3836.	3.432E-05	7.763E-08	1.6954E+06	3.190E+06	3.268E-02	0.400

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	576.0	7.617E+00	1.058E-02	1.291E-02	0.3238	0.3949
6	0.060	0.000	563.7	5.438E+00	7.429E-03	9.027E-03	0.2273	0.2762
7	0.080	0.000	553.5	4.530E+00	6.104E-03	7.395E-03	0.1867	0.2262
8	0.100	0.000	547.0	4.335E+00	5.790E-03	7.002E-03	0.1771	0.2142
10	0.150	0.000	533.7	3.630E+00	4.764E-03	5.741E-03	0.1458	0.1756
16	0.192	0.000	523.8	3.304E+00	4.280E-03	5.143E-03	0.1310	0.1574
20	0.250	0.000	526.7	3.165E+00	4.116E-03	4.950E-03	0.1259	0.1515
23	0.300	0.000	529.1	2.883E+00	3.760E-03	4.525E-03	0.1150	0.1384
30	0.350	0.000	540.2	2.675E+00	3.541E-03	4.274E-03	0.1083	0.1308
31	0.400	0.000	544.4	2.330E+00	3.102E-03	3.748E-03	0.0949	0.1147
33	0.450	0.000	550.3	2.369E+00	3.178E-03	3.846E-03	0.0972	0.1177
34	0.500	0.000	552.1	2.308E+00	3.104E-03	3.759E-03	0.0950	0.1150
37	0.550	0.000	550.9	2.083E+00	2.797E-03	3.386E-03	0.0856	0.1036
38	0.600	0.000	559.9	2.242E+00	3.047E-03	3.699E-03	0.0932	0.1132
40	0.650	0.000	568.8	2.099E+00	2.888E-03	3.515E-03	0.0884	0.1075
41	0.700	0.000	571.6	2.036E+00	2.812E-03	3.424E-03	0.0860	0.1048
43	0.750	0.000	573.7	2.046E+00	2.834E-03	3.454E-03	0.0867	0.1057
46	0.850	0.000	580.6	1.974E+00	2.761E-03	3.372E-03	0.0845	0.1032
49	0.950	0.000	575.6	2.140E+00	2.972E-03	3.624E-03	0.0909	0.1109
86	0.125	0.055	544.4	4.478E+00	5.961E-03	7.204E-03	0.1824	0.2204
11	0.150	0.091	535.9	4.124E+00	5.427E-03	6.543E-03	0.1661	0.2002
17	0.192	0.107	535.7	3.821E+00	5.027E-03	6.061E-03	0.1538	0.1854
87	0.300	-0.106	533.5	3.301E+00	4.332E-03	5.219E-03	0.1325	0.1597
88	0.300	0.061	533.5	3.087E+00	4.050E-03	4.879E-03	0.1239	0.1493
89	0.300	0.122	537.6	3.515E+00	4.637E-03	5.592E-03	0.1419	0.1711
24	0.300	0.160	536.2	3.624E+00	4.771E-03	5.753E-03	0.1460	0.1760
25	0.300	0.221	539.4	3.732E+00	4.935E-03	5.955E-03	0.1510	0.1822
90	0.400	-0.107	548.5	2.611E+00	3.494E-03	4.227E-03	0.1069	0.1293
32	0.400	0.107	546.8	2.543E+00	3.396E-03	4.107E-03	0.1039	0.1257
52	0.400	0.250	552.5	3.230E+00	4.346E-03	5.264E-03	0.1330	0.1610
91	0.425	0.061	550.8	2.441E+00	3.277E-03	3.968E-03	0.1003	0.1214
92	0.425	0.178	551.1	3.013E+00	4.046E-03	4.899E-03	0.1238	0.1499
93	0.500	-0.107	551.4	2.197E+00	2.952E-03	3.574E-03	0.0903	0.1093
35	0.500	0.107	549.0	2.036E+00	2.727E-03	3.299E-03	0.0834	0.1009
94	0.500	0.178	552.1	2.694E+00	3.623E-03	4.388E-03	0.1109	0.1343
53	0.500	0.250	553.9	2.909E+00	3.921E-03	4.751E-03	0.1200	0.1454
95	0.600	-0.250	564.5	2.232E+00	3.053E-03	3.710E-03	0.0934	0.1135
39	0.600	0.107	559.1	2.213E+00	3.005E-03	3.647E-03	0.0919	0.1116

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:11.02
DATE RECORDED: 9-JUN-95
TIME RECORDED: 23:16.21
000011244

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
153	S3R 9	A-2 .	29-O	7.97	376.8	1295.67	30.00	9.96	39.96	-0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.5	0.039	1.753	3836.	3.432E-05	7.763E-08	1.6954E+06	3.190E+06	3.268E-02	0.400

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	559.9	2.299E+00	3.124E-03	3.792E-03	0.0956	0.1160
98	0.660	-0.107	572.9	2.160E+00	2.989E-03	3.642E-03	0.0914	0.1114
96	0.660	0.107	568.7	2.490E+00	3.425E-03	4.168E-03	0.1048	0.1275
97	0.660	0.250	569.9	1.976E+00	2.723E-03	3.315E-03	0.0833	0.1014
60	0.660	0.400	572.0	2.972E+00	4.106E-03	5.002E-03	0.1256	0.1530
65	0.700	0.500	576.5	3.477E+00	4.834E-03	5.896E-03	0.1479	0.1804
99	0.750	0.178	573.4	1.906E+00	2.639E-03	3.216E-03	0.0807	0.0984
100	0.755	0.400	576.6	2.376E+00	3.305E-03	4.031E-03	0.1011	0.1233
101	0.800	-0.250	580.5	2.253E+00	3.151E-03	3.848E-03	0.0964	0.1177
45	0.800	0.107	574.5	1.870E+00	2.594E-03	3.162E-03	0.0794	0.0967
56	0.800	0.250	576.7	2.230E+00	3.102E-03	3.784E-03	0.0949	0.1158
66	0.800	0.500	578.4	2.682E+00	3.739E-03	4.564E-03	0.1144	0.1396
70	0.800	0.600	580.0	3.141E+00	4.389E-03	5.360E-03	0.1343	0.1640
75	0.800	0.750	583.5	3.264E+00	4.583E-03	5.603E-03	0.1402	0.1714
102	0.886	0.732	574.2	2.953E+00	4.094E-03	4.990E-03	0.1252	0.1527
103	0.900	-0.107	578.5	2.209E+00	3.081E-03	3.760E-03	0.0943	0.1150
57	0.900	0.250	582.3	2.887E+00	4.047E-03	4.945E-03	0.1238	0.1513

RUN 153

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:11:06
DATE RECORDED: 10-JUN-95
TIME RECORDED: 0:05:00
00001245

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
154	S3R 2	A-2	29-0	7.98	459.2	1320.67	30.00	9.97	39.97	-0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.3	0.048	2.126	3876.	4.077E-05	7.907E-08	1.9984E+06	3.760E+06	3.611E-02	0.224

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	319.2	8.943E+00	8.930E-03	1.029E-02	0.2473	0.2848
6	0.060	0.000	307.3	6.588E+00	6.502E-03	7.476E-03	0.1800	0.2070
7	0.080	0.000	304.7	6.056E+00	5.961E-03	6.852E-03	0.1651	0.1897
8	0.100	0.000	316.4	6.305E+00	6.278E-03	7.229E-03	0.1738	0.2002
10	0.150	0.000	335.4	5.280E+00	5.359E-03	6.189E-03	0.1484	0.1714
16	0.192	0.000	355.6	5.130E+00	5.316E-03	6.159E-03	0.1472	0.1705
20	0.250	0.000	372.9	6.650E+00	7.017E-03	8.153E-03	0.1943	0.2258
23	0.300	0.000	367.4	7.596E+00	7.968E-03	9.250E-03	0.2206	0.2561
30	0.350	0.000	358.4	8.821E+00	9.167E-03	1.062E-02	0.2538	0.2942
31	0.400	0.000	315.6	9.387E+00	9.340E-03	1.075E-02	0.2586	0.2977
33	0.450	0.000	280.1	9.798E+00	9.415E-03	1.078E-02	0.2607	0.2986
34	0.500	0.000	273.2	1.079E+01	1.030E-02	1.178E-02	0.2852	0.3263
37	0.550	0.000	264.2	1.023E+01	9.683E-03	1.107E-02	0.2681	0.3064
38	0.600	0.000	274.9	1.152E+01	1.102E-02	1.261E-02	0.3050	0.3491
40	0.650	0.000	282.0	1.145E+01	1.103E-02	1.263E-02	0.3053	0.3498
41	0.700	0.000	295.5	1.039E+01	1.014E-02	1.164E-02	0.2807	0.3222
43	0.750	0.000	299.5	1.027E+01	1.005E-02	1.155E-02	0.2784	0.3197
46	0.850	0.000	306.1	1.080E+01	1.064E-02	1.224E-02	0.2947	0.3388
49	0.950	0.000	333.9	7.404E+00	7.503E-03	8.663E-03	0.2078	0.2399
86	0.125	0.055	314.3	5.740E+00	5.704E-03	6.565E-03	0.1579	0.1818
11	0.150	0.091	329.8	5.607E+00	5.659E-03	6.529E-03	0.1567	0.1808
17	0.192	0.107	381.7	5.720E+00	6.091E-03	7.088E-03	0.1687	0.1963
87	0.300	-0.106	374.5	4.407E+00	4.658E-03	5.414E-03	0.1290	0.1499
88	0.300	0.061	360.1	7.032E+00	7.321E-03	8.488E-03	0.2027	0.2350
89	0.300	0.122	381.3	9.241E+00	9.837E-03	1.145E-02	0.2724	0.3169
24	0.300	0.160	380.7	8.064E+00	8.579E-03	9.982E-03	0.2376	0.2764
25	0.300	0.221	394.5	8.833E+00	9.537E-03	1.112E-02	0.2641	0.3080
90	0.400	-0.107	338.0	9.252E+00	9.415E-03	1.088E-02	0.2607	0.3012
32	0.400	0.107	316.9	8.750E+00	8.717E-03	1.004E-02	0.2414	0.2780
52	0.400	0.250	351.3	9.079E+00	9.366E-03	1.084E-02	0.2593	0.3003
91	0.425	0.061	294.7	8.687E+00	8.467E-03	9.718E-03	0.2344	0.2691
92	0.425	0.178	319.0	9.900E+00	9.884E-03	1.138E-02	0.2737	0.3152
93	0.500	-0.107	285.3	1.034E+01	9.983E-03	1.144E-02	0.2764	0.3168
35	0.500	0.107	270.2	9.643E+00	9.179E-03	1.050E-02	0.2542	0.2907
94	0.500	0.178	279.2	9.928E+00	9.533E-03	1.092E-02	0.2640	0.3023
53	0.500	0.250	294.7	1.022E+01	9.962E-03	1.143E-02	0.2758	0.3166
95	0.600	-0.250	320.6	1.005E+01	1.005E-02	1.158E-02	0.2782	0.3205
39	0.600	0.107	272.6	1.027E+01	9.797E-03	1.121E-02	0.2713	0.3104

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:11:06
DATE RECORDED: 10-JUN-95
TIME RECORDED: 0:05:00
000011246

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
154	S3R 2	A-2	29-O	7.98	459.2	1320.67	30.00	9.97	39.97	0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.3	0.048	2.126	3876.	4.077E-05	7.907E-08	1.9984E+06	3.760E+06	3.611E-02	0.224

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	280.5	1.075E+01	1.033E-02	1.183E-02	0.2860	0.3276
98	0.660	-0.107	314.7	9.591E+00	9.535E-03	1.098E-02	0.2640	0.3039
96	0.660	0.107	278.9	1.027E+01	9.857E-03	1.129E-02	0.2729	0.3126
97	0.660	0.250	282.7	1.050E+01	1.011E-02	1.159E-02	0.2800	0.3209
60	0.660	0.400	282.0	1.281E+01	1.233E-02	1.413E-02	0.3415	0.3913
65	0.700	0.500	285.2	1.511E+01	1.460E-02	1.673E-02	0.4042	0.4633
99	0.750	0.178	286.2	9.741E+00	9.416E-03	1.079E-02	0.2607	0.2989
100	0.755	0.400	266.7	1.252E+01	1.188E-02	1.358E-02	0.3290	0.3761
101	0.800	-0.250	351.5	9.729E+00	1.004E-02	1.162E-02	0.2780	0.3218
45	0.800	0.107	292.2	9.576E+00	9.311E-03	1.068E-02	0.2578	0.2958
56	0.800	0.250	287.7	1.042E+01	1.009E-02	1.157E-02	0.2793	0.3203
66	0.800	0.500	259.9	1.343E+01	1.266E-02	1.446E-02	0.3505	0.4004
70	0.800	0.600	273.8	1.452E+01	1.387E-02	1.588E-02	0.3842	0.4396
75	0.800	0.750	276.0	1.503E+01	1.439E-02	1.647E-02	0.3985	0.4562
102	0.886	0.732	259.7	1.238E+01	1.167E-02	1.333E-02	0.3232	0.3692
103	0.900	-0.107	337.3	8.846E+00	8.996E-03	1.039E-02	0.2491	0.2877
57	0.900	0.250	300.4	8.919E+00	8.741E-03	1.004E-02	0.2420	0.2780

RUN 154

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:11:09
DATE RECORDED: 10-JUN-95
TIME RECORDED: 0:27:02
00001124?

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
155	S11R 1	F-3	29-0	7.99	574.9	1318.67	30.00	9.97	39.97	-0.06

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.8	0.059	2.650	3874	5.085E-05	7.873E-08	2.5024E+06	4.709E+06	4.031E-02	0.378

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	587.4	9.810E+00	1.341E-02	1.636E-02	0.3328	0.4060
6	0.060	0.000	573.7	7.175E+00	9.632E-03	1.170E-02	0.2390	0.2904
7	0.080	0.000	562.9	6.071E+00	8.034E-03	9.732E-03	0.1993	0.2414
8	0.100	0.000	554.8	5.691E+00	7.451E-03	9.006E-03	0.1849	0.2234
10	0.150	0.000	537.2	4.596E+00	5.881E-03	7.075E-03	0.1459	0.1755
16	0.192	0.000	523.7	4.158E+00	5.231E-03	6.271E-03	0.1298	0.1556
20	0.250	0.000	523.7	3.989E+00	5.018E-03	6.016E-03	0.1245	0.1492
23	0.300	0.000	518.4	3.773E+00	4.714E-03	5.644E-03	0.1170	0.1400
30	0.350	0.000	516.4	3.577E+00	4.459E-03	5.336E-03	0.1106	0.1324
31	0.400	0.000	509.9	3.231E+00	3.996E-03	4.774E-03	0.0991	0.1184
33	0.450	0.000	510.4	3.248E+00	4.018E-03	4.801E-03	0.0997	0.1191
34	0.500	0.000	511.4	3.351E+00	4.151E-03	4.961E-03	0.1030	0.1231
37	0.550	0.000	512.2	3.182E+00	3.946E-03	4.717E-03	0.0979	0.1170
38	0.600	0.000	525.2	3.676E+00	4.633E-03	5.556E-03	0.1149	0.1378
40	0.650	0.000	535.8	4.072E+00	5.202E-03	6.255E-03	0.1290	0.1552
41	0.700	0.000	539.9	4.626E+00	5.940E-03	7.151E-03	0.1474	0.1774
43	0.750	0.000	543.6	5.347E+00	6.899E-03	8.313E-03	0.1712	0.2062
46	0.850	0.000	556.9	7.017E+00	9.212E-03	1.114E-02	0.2285	0.2764
49	0.950	0.000	556.9	6.805E+00	8.933E-03	1.080E-02	0.2216	0.2680
86	0.125	0.055	550.2	5.704E+00	7.423E-03	8.961E-03	0.1842	0.2223
11	0.150	0.091	538.1	5.275E+00	6.758E-03	8.131E-03	0.1677	0.2017
17	0.192	0.107	531.0	4.877E+00	6.191E-03	7.436E-03	0.1536	0.1845
87	0.300	-0.106	519.2	4.440E+00	5.554E-03	6.651E-03	0.1378	0.1650
88	0.300	0.061	522.2	4.014E+00	5.039E-03	6.039E-03	0.1250	0.1498
89	0.300	0.122	524.6	4.928E+00	6.206E-03	7.442E-03	0.1540	0.1846
24	0.300	0.160	538.3	8.748E+00	1.121E-02	1.349E-02	0.2781	0.3347
25	0.300	0.221	520.1	4.965E+00	6.217E-03	7.447E-03	0.1542	0.1847
90	0.400	-0.107	512.1	3.644E+00	4.518E-03	5.401E-03	0.1121	0.1340
32	0.400	0.107	511.7	3.473E+00	4.304E-03	5.145E-03	0.1068	0.1277
52	0.400	0.250	539.0	9.575E+00	1.228E-02	1.478E-02	0.3047	0.3667
91	0.425	0.061	512.8	3.336E+00	4.140E-03	4.949E-03	0.1027	0.1228
92	0.425	0.178	513.5	4.204E+00	5.222E-03	6.245E-03	0.1296	0.1549
93	0.500	-0.107	509.1	3.045E+00	3.762E-03	4.494E-03	0.0933	0.1115
35	0.500	0.107	506.8	2.944E+00	3.626E-03	4.330E-03	0.0900	0.1074
94	0.500	0.178	511.4	3.822E+00	4.735E-03	5.660E-03	0.1175	0.1404
53	0.500	0.250	515.5	4.416E+00	5.498E-03	6.578E-03	0.1364	0.1632
95	0.600	-0.250	523.3	3.350E+00	4.212E-03	5.049E-03	0.1045	0.1253
39	0.600	0.107	524.6	3.587E+00	4.516E-03	5.416E-03	0.1121	0.1344

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:11:09
DATE RECORDED: 10-JUN-95
TIME RECORDED: 0:27:02
000011248

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
155	S11R 1	F-3	29-0	7.99	574.9	1318.67	30.00	9.97	39.97	-0.06

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.8	0.059	2.650	3874.	5.085E-05	7.873E-08	2.5024E+06	4.709E+06	4.031E-02	0.378

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(9TT)/ HREF
54	0.600	0.250	524.3	3.486E+00	4.388E-03	5.262E-03	0.1089	0.1305
98	0.660	-0.107	535.8	4.040E+00	5.161E-03	6.206E-03	0.1280	0.1540
96	0.660	0.107	537.4	4.496E+00	5.755E-03	6.923E-03	0.1428	0.1718
97	0.660	0.250	539.4	3.485E+00	4.472E-03	5.383E-03	0.1109	0.1335
60	0.660	0.400	556.6	6.050E+00	7.938E-03	9.599E-03	0.1969	0.2382
65	0.700	0.500	579.6	9.604E+00	1.299E-02	1.582E-02	0.3224	0.3924
99	0.750	0.178	546.0	4.816E+00	6.233E-03	7.515E-03	0.1546	0.1865
100	0.755	0.400	567.0	5.834E+00	7.762E-03	9.413E-03	0.1926	0.2335
101	0.800	-0.250	550.8	5.839E+00	7.605E-03	9.181E-03	0.1887	0.2278
45	0.800	0.107	549.3	5.908E+00	7.679E-03	9.267E-03	0.1905	0.2299
56	0.800	0.250	555.6	6.194E+00	8.117E-03	9.812E-03	0.2014	0.2434
66	0.800	0.500	582.6	8.161E+00	1.109E-02	1.351E-02	0.2751	0.3351
70	0.800	0.600	597.1	9.963E+00	1.381E-02	1.689E-02	0.3425	0.4191
75	0.800	0.750	604.5	9.445E+00	1.323E-02	1.622E-02	0.3281	0.4024
102	0.886	0.732	595.1	8.785E+00	1.214E-02	1.485E-02	0.3012	0.3683
103	0.900	-0.107	552.1	6.729E+00	8.777E-03	1.060E-02	0.2178	0.2630
57	0.900	0.250	564.5	7.431E+00	9.853E-03	1.194E-02	0.2444	0.2962

RUN 155

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:11:13
DATE RECORDED: 10-JUN-95
TIME RECORDED: 0:30.26
000011249

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
156	S11R 3	F-3	29-0	7.99	574.6	1318.67	30.00	4.94	34.94	0.00

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.8	0.059	2.649	3874	5.082E-05	7.873E-08	2.5011E+06	4.706E+06	4.030E-02	0.377

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	581.3	8.863E+00	1.202E-02	1.464E-02	0.2983	0.3632
6	0.060	0.000	567.8	6.493E+00	8.648E-03	1.049E-02	0.2146	0.2603
7	0.080	0.000	555.0	5.381E+00	7.046E-03	8.516E-03	0.1748	0.2113
8	0.100	0.000	544.9	5.047E+00	6.522E-03	7.862E-03	0.1619	0.1951
10	0.150	0.000	524.0	4.193E+00	5.276E-03	6.326E-03	0.1309	0.1570
16	0.192	0.000	510.3	3.674E+00	4.545E-03	5.431E-03	0.1128	0.1348
20	0.250	0.000	515.7	3.450E+00	4.296E-03	5.140E-03	0.1066	0.1276
23	0.300	0.000	514.4	3.199E+00	3.977E-03	4.757E-03	0.0987	0.1180
30	0.350	0.000	516.8	2.867E+00	3.576E-03	4.280E-03	0.0887	0.1062
31	0.400	0.000	513.9	2.719E+00	3.378E-03	4.040E-03	0.0838	0.1003
33	0.450	0.000	515.0	2.719E+00	3.383E-03	4.047E-03	0.0840	0.1004
34	0.500	0.000	515.0	2.968E+00	3.692E-03	4.417E-03	0.0916	0.1096
37	0.550	0.000	517.7	2.908E+00	3.630E-03	4.345E-03	0.0901	0.1078
38	0.600	0.000	527.6	3.232E+00	4.086E-03	4.903E-03	0.1014	0.1217
40	0.650	0.000	539.9	3.778E+00	4.851E-03	5.840E-03	0.1204	0.1449
41	0.700	0.000	548.9	4.366E+00	5.672E-03	6.844E-03	0.1408	0.1698
43	0.750	0.000	553.0	5.106E+00	6.669E-03	8.056E-03	0.1655	0.1999
46	0.850	0.000	563.6	6.882E+00	9.114E-03	1.104E-02	0.2262	0.2740
49	0.950	0.000	559.4	6.098E+00	8.032E-03	9.720E-03	0.1993	0.2412
86	0.125	0.055	538.3	5.042E+00	6.461E-03	7.774E-03	0.1603	0.1929
11	0.150	0.091	525.8	4.881E+00	6.156E-03	7.384E-03	0.1528	0.1832
17	0.192	0.107	520.6	4.396E+00	5.508E-03	6.599E-03	0.1367	0.1638
87	0.300	-0.106	515.8	3.882E+00	4.835E-03	5.785E-03	0.1200	0.1436
88	0.300	0.061	518.5	3.527E+00	4.408E-03	5.277E-03	0.1094	0.1310
89	0.300	0.122	521.1	4.428E+00	5.552E-03	6.652E-03	0.1378	0.1651
24	0.300	0.160	521.8	5.554E+00	6.971E-03	8.353E-03	0.1730	0.2073
25	0.300	0.221	517.7	4.405E+00	5.500E-03	6.584E-03	0.1365	0.1634
90	0.400	-0.107	516.0	3.171E+00	3.951E-03	4.727E-03	0.0980	0.1173
32	0.400	0.107	516.1	2.965E+00	3.694E-03	4.420E-03	0.0917	0.1097
52	0.400	0.250	540.2	8.593E+00	1.104E-02	1.329E-02	0.2739	0.3298
91	0.425	0.061	518.1	2.818E+00	3.520E-03	4.215E-03	0.0874	0.1046
92	0.425	0.178	520.7	4.276E+00	5.358E-03	6.418E-03	0.1330	0.1593
93	0.500	-0.107	514.1	2.711E+00	3.369E-03	4.029E-03	0.0836	0.1000
35	0.500	0.107	510.7	2.590E+00	3.206E-03	3.831E-03	0.0796	0.0951
94	0.500	0.178	515.3	3.520E+00	4.382E-03	5.242E-03	0.1087	0.1301
53	0.500	0.250	540.0	9.001E+00	1.156E-02	1.391E-02	0.2868	0.3453
95	0.600	-0.250	527.5	2.928E+00	3.701E-03	4.442E-03	0.0918	0.1102
39	0.600	0.107	526.6	3.274E+00	4.134E-03	4.960E-03	0.1026	0.1231

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:11:13
DATE RECORDED: 10-JUN-95
TIME RECORDED: 0:30:26
00001125D

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
156	S11R 3	F-3	29-O	7.99	574.6	1318.67	30.00	4.94	34.94	0.00

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.8	0.059	2.649	3874.	5.082E-05	7.873E-08	2.5011E+06	4.706E+06	4.030E-02	0.377

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	535.8	6.060E+00	7.740E-03	9.308E-03	0.1921	0.2310
98	0.660	-0.107	542.8	3.586E+00	4.622E-03	5.568E-03	0.1147	0.1382
96	0.660	0.107	542.2	4.179E+00	5.383E-03	6.484E-03	0.1336	0.1609
97	0.660	0.250	550.1	5.450E+00	7.091E-03	8.560E-03	0.1760	0.2124
60	0.660	0.400	577.0	1.131E+01	1.525E-02	1.855E-02	0.3784	0.4603
65	0.700	0.500	599.0	1.363E+01	1.894E-02	2.319E-02	0.4700	0.5754
99	0.750	0.178	555.3	4.830E+00	6.327E-03	7.648E-03	0.1570	0.1898
100	0.755	0.400	587.6	1.039E+01	1.422E-02	1.735E-02	0.3528	0.4305
101	0.800	-0.250	558.5	5.305E+00	6.979E-03	8.444E-03	0.1732	0.2095
45	0.800	0.107	557.3	5.705E+00	7.493E-03	9.063E-03	0.1859	0.2249
56	0.800	0.250	568.1	7.902E+00	1.053E-02	1.277E-02	0.2613	0.3169
66	0.800	0.500	594.9	1.073E+01	1.483E-02	1.813E-02	0.3680	0.4500
70	0.800	0.600	606.3	1.185E+01	1.663E-02	2.040E-02	0.4126	0.5064
75	0.800	0.750	615.0	1.268E+01	1.802E-02	2.217E-02	0.4471	0.5502
102	0.886	0.732	595.2	9.545E+00	1.319E-02	1.613E-02	0.3274	0.4004
103	0.900	-0.107	556.6	6.134E+00	8.050E-03	9.734E-03	0.1998	0.2416
57	0.900	0.250	570.3	7.739E+00	1.034E-02	1.255E-02	0.2566	0.3115

RUN 156

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:11:16
DATE RECORDED: 10-JUN-95
TIME RECORDED: 0:39:47
00001125

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
157	S11R 5	F-3	29-0	7.98	461.7	1320.67	30.00	9.97	39.97	-0.01

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.3	0.048	2.138	3876.	4.098E-05	7.906E-08	2.0092E+06	3.781E+06	3.621E-02	0.381

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	568.6	8.878E+00	1.180E-02	1.432E-02	0.3260	0.3954
6	0.060	0.000	556.9	6.585E+00	8.621E-03	1.042E-02	0.2381	0.2878
7	0.080	0.000	548.1	5.516E+00	7.141E-03	8.613E-03	0.1972	0.2379
8	0.100	0.000	543.6	5.073E+00	6.528E-03	7.865E-03	0.1803	0.2172
10	0.150	0.000	534.5	4.106E+00	5.223E-03	6.277E-03	0.1442	0.1734
16	0.192	0.000	524.7	3.687E+00	4.632E-03	5.553E-03	0.1279	0.1534
20	0.250	0.000	523.4	3.720E+00	4.666E-03	5.593E-03	0.1289	0.1545
23	0.300	0.000	518.3	3.377E+00	4.209E-03	5.039E-03	0.1162	0.1391
30	0.350	0.000	519.8	3.326E+00	4.153E-03	4.973E-03	0.1147	0.1373
31	0.400	0.000	515.6	2.864E+00	3.557E-03	4.256E-03	0.0982	0.1175
33	0.450	0.000	518.5	2.883E+00	3.594E-03	4.302E-03	0.0993	0.1188
34	0.500	0.000	522.6	2.964E+00	3.714E-03	4.450E-03	0.1026	0.1229
37	0.550	0.000	524.7	2.699E+00	3.391E-03	4.066E-03	0.0937	0.1123
38	0.600	0.000	535.4	2.824E+00	3.596E-03	4.323E-03	0.0993	0.1194
40	0.650	0.000	544.8	2.802E+00	3.611E-03	4.352E-03	0.0997	0.1202
41	0.700	0.000	547.2	2.881E+00	3.724E-03	4.491E-03	0.1028	0.1240
43	0.750	0.000	549.1	3.083E+00	3.996E-03	4.821E-03	0.1103	0.1331
46	0.850	0.000	557.4	3.670E+00	4.808E-03	5.814E-03	0.1328	0.1606
49	0.950	0.000	555.0	4.180E+00	5.459E-03	6.596E-03	0.1507	0.1822
86	0.125	0.055	543.1	5.066E+00	6.515E-03	7.847E-03	0.1799	0.2167
11	0.150	0.091	534.3	4.693E+00	5.968E-03	7.173E-03	0.1648	0.1981
17	0.192	0.107	531.0	4.389E+00	5.558E-03	6.674E-03	0.1535	0.1843
87	0.300	-0.106	520.0	3.928E+00	4.906E-03	5.875E-03	0.1355	0.1622
88	0.300	0.061	522.7	3.662E+00	4.590E-03	5.500E-03	0.1267	0.1519
89	0.300	0.122	525.1	4.366E+00	5.488E-03	6.580E-03	0.1516	0.1817
24	0.300	0.160	532.4	6.623E+00	8.402E-03	1.009E-02	0.2320	0.2787
25	0.300	0.221	522.7	4.436E+00	5.560E-03	6.662E-03	0.1535	0.1840
90	0.400	-0.107	518.8	3.240E+00	4.041E-03	4.838E-03	0.1116	0.1336
32	0.400	0.107	517.7	3.156E+00	3.930E-03	4.704E-03	0.1085	0.1299
52	0.400	0.250	540.9	7.945E+00	1.019E-02	1.227E-02	0.2814	0.3387
91	0.425	0.061	519.7	3.039E+00	3.794E-03	4.543E-03	0.1048	0.1255
92	0.425	0.178	520.5	3.690E+00	4.612E-03	5.523E-03	0.1274	0.1525
93	0.500	-0.107	521.3	2.657E+00	3.324E-03	3.982E-03	0.0918	0.1100
35	0.500	0.107	518.8	2.574E+00	3.211E-03	3.844E-03	0.0887	0.1061
94	0.500	0.178	523.2	3.354E+00	4.205E-03	5.040E-03	0.1161	0.1392
53	0.500	0.250	526.4	3.693E+00	4.650E-03	5.577E-03	0.1284	0.1540
95	0.600	-0.250	533.7	2.856E+00	3.629E-03	4.361E-03	0.1002	0.1204
39	0.600	0.107	535.4	2.909E+00	3.704E-03	4.454E-03	0.1023	0.1230

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:11:16
DATE RECORDED: 10-JUN-95
TIME RECORDED: 0:39:47
000011252

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
157	S11R 5	F-3	29-O	7.98	461.7	1320.67	30.00	9.97	39.97	-0.01

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.3	0.048	2.138	3876.	4.098E-05	7.906E-08	2.0092E+06	3.781E+06	3.621E-02	0.381

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	535.2	2.910E+00	3.705E-03	4.453E-03	0.1023	0.1230
98	0.660	-0.107	544.9	2.867E+00	3.696E-03	4.454E-03	0.1021	0.1230
96	0.660	0.107	546.1	3.280E+00	4.235E-03	5.106E-03	0.1170	0.1410
97	0.660	0.250	548.3	2.572E+00	3.330E-03	4.016E-03	0.0919	0.1109
60	0.660	0.400	559.5	4.060E+00	5.333E-03	6.453E-03	0.1473	0.1782
65	0.700	0.500	573.8	5.971E+00	7.995E-03	9.712E-03	0.2208	0.2682
99	0.750	0.178	551.2	2.821E+00	3.666E-03	4.426E-03	0.1012	0.1222
100	0.755	0.400	564.7	3.518E+00	4.654E-03	5.639E-03	0.1285	0.1557
101	0.800	-0.250	554.4	3.374E+00	4.403E-03	5.320E-03	0.1216	0.1469
45	0.800	0.107	551.7	3.016E+00	3.922E-03	4.735E-03	0.1083	0.1308
56	0.800	0.250	557.0	3.467E+00	4.540E-03	5.490E-03	0.1254	0.1516
66	0.800	0.500	573.8	4.754E+00	6.365E-03	7.732E-03	0.1758	0.2135
70	0.800	0.600	583.0	6.112E+00	8.287E-03	1.009E-02	0.2288	0.2787
75	0.800	0.750	588.7	5.804E+00	7.929E-03	9.675E-03	0.2190	0.2672
102	0.886	0.732	581.2	5.624E+00	7.604E-03	9.258E-03	0.2100	0.2557
103	0.900	-0.107	552.4	4.049E+00	5.271E-03	6.366E-03	0.1456	0.1758
57	0.900	0.250	564.1	4.659E+00	6.158E-03	7.460E-03	0.1701	0.2060

RUN 157

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:11:19
DATE RECORDED: 10-JUN-95
TIME RECORDED: 0:42:04
00001125

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
158	S11R 7	F-3	29-O	7.98	457.5	1320.67	30.00	4.94	34.94	-0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.3	0.048	2.119	3876.	4.062E-05	7.907E-08	1.9911E+06	3.747E+06	3.605E-02	0.382

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	577.4	7.862E+00	1.058E-02	1.286E-02	0.2934	0.3568
6	0.060	0.000	565.0	5.805E+00	7.681E-03	9.308E-03	0.2131	0.2582
7	0.080	0.000	553.7	4.784E+00	6.237E-03	7.535E-03	0.1730	0.2090
8	0.100	0.000	545.1	4.458E+00	5.749E-03	6.928E-03	0.1595	0.1922
10	0.150	0.000	527.3	3.693E+00	4.655E-03	5.584E-03	0.1291	0.1549
16	0.192	0.000	514.5	3.245E+00	4.025E-03	4.814E-03	0.1117	0.1335
20	0.250	0.000	519.6	3.027E+00	3.778E-03	4.524E-03	0.1048	0.1255
23	0.300	0.000	517.9	2.825E+00	3.519E-03	4.212E-03	0.0976	0.1168
30	0.350	0.000	522.1	2.619E+00	3.280E-03	3.930E-03	0.0910	0.1090
31	0.400	0.000	520.5	2.403E+00	3.003E-03	3.596E-03	0.0833	0.0998
33	0.450	0.000	524.4	2.303E+00	2.892E-03	3.467E-03	0.0802	0.0962
34	0.500	0.000	526.3	2.474E+00	3.115E-03	3.736E-03	0.0864	0.1036
37	0.550	0.000	526.6	2.397E+00	3.019E-03	3.621E-03	0.0837	0.1004
38	0.600	0.000	535.0	2.449E+00	3.117E-03	3.747E-03	0.0865	0.1039
40	0.650	0.000	543.2	2.503E+00	3.220E-03	3.879E-03	0.0893	0.1076
41	0.700	0.000	552.2	2.546E+00	3.313E-03	4.000E-03	0.0919	0.1110
43	0.750	0.000	554.7	2.745E+00	3.584E-03	4.331E-03	0.0994	0.1201
46	0.850	0.000	561.1	3.528E+00	4.645E-03	5.623E-03	0.1289	0.1560
49	0.950	0.000	557.8	3.561E+00	4.669E-03	5.646E-03	0.1295	0.1566
86	0.125	0.055	539.8	4.473E+00	5.728E-03	6.894E-03	0.1589	0.1913
11	0.150	0.091	528.5	4.320E+00	5.453E-03	6.544E-03	0.1513	0.1815
17	0.192	0.107	524.5	3.900E+00	4.898E-03	5.872E-03	0.1359	0.1629
87	0.300	-0.106	519.2	3.443E+00	4.296E-03	5.144E-03	0.1192	0.1427
88	0.300	0.061	522.5	3.060E+00	3.834E-03	4.594E-03	0.1064	0.1274
89	0.300	0.122	524.7	3.756E+00	4.719E-03	5.658E-03	0.1309	0.1570
24	0.300	0.160	523.8	4.393E+00	5.513E-03	6.608E-03	0.1529	0.1833
25	0.300	0.221	523.0	3.927E+00	4.923E-03	5.900E-03	0.1366	0.1637
90	0.400	-0.107	522.8	2.702E+00	3.387E-03	4.059E-03	0.0940	0.1126
32	0.400	0.107	522.9	2.607E+00	3.268E-03	3.916E-03	0.0906	0.1086
52	0.400	0.250	540.6	6.559E+00	8.409E-03	1.012E-02	0.2333	0.2808
91	0.425	0.061	525.8	2.458E+00	3.093E-03	3.709E-03	0.0858	0.1029
92	0.425	0.178	526.2	3.347E+00	4.212E-03	5.052E-03	0.1168	0.1401
93	0.500	-0.107	524.1	2.377E+00	2.985E-03	3.578E-03	0.0828	0.0993
35	0.500	0.107	523.2	2.196E+00	2.753E-03	3.300E-03	0.0764	0.0915
94	0.500	0.178	526.4	3.010E+00	3.790E-03	4.545E-03	0.1051	0.1261
53	0.500	0.250	541.3	6.446E+00	8.271E-03	9.958E-03	0.2294	0.2762
95	0.600	-0.250	534.8	2.399E+00	3.053E-03	3.669E-03	0.0847	0.1018
39	0.600	0.107	534.4	2.421E+00	3.079E-03	3.701E-03	0.0854	0.1027

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:11:19
DATE RECORDED: 10-JUN-95
TIME RECORDED: 0:42.04
00001254

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
158	S11R 7	F-3	29-0	7.98	457.5	1320.67	30.00	4.94	34.94	-0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
98.3	0.048	2.119	3876.	4.062E-05	7.907E-08	1.9911E+06	3.747E+06	3.605E-02	0.382

CO-AXIAL DATA

GAGE NO	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	536.9	3.310E+00	4.224E-03	5.079E-03	0.1172	0.1409
98	0.660	-0.107	545.8	2.424E+00	3.128E-03	3.771E-03	0.0868	0.1046
96	0.660	0.107	545.0	2.830E+00	3.649E-03	4.397E-03	0.1012	0.1220
97	0.660	0.250	548.5	2.738E+00	3.547E-03	4.278E-03	0.0984	0.1187
60	0.660	0.400	576.5	9.485E+00	1.275E-02	1.549E-02	0.3535	0.4298
65	0.700	0.500	597.1	1.143E+01	1.580E-02	1.933E-02	0.4384	0.5363
99	0.750	0.178	556.2	2.565E+00	3.355E-03	4.056E-03	0.0931	0.1125
100	0.755	0.400	586.8	8.807E+00	1.200E-02	1.463E-02	0.3329	0.4059
101	0.800	-0.250	558.7	2.707E+00	3.553E-03	4.298E-03	0.0986	0.1192
45	0.800	0.107	556.0	2.985E+00	3.904E-03	4.719E-03	0.1083	0.1309
56	0.800	0.250	563.8	4.344E+00	5.739E-03	6.952E-03	0.1592	0.1929
66	0.800	0.500	592.5	8.983E+00	1.234E-02	1.507E-02	0.3422	0.4180
70	0.800	0.600	602.1	9.799E+00	1.364E-02	1.671E-02	0.3783	0.4634
75	0.800	0.750	610.3	1.019E+01	1.435E-02	1.762E-02	0.3980	0.4889
102	0.886	0.732	591.2	7.933E+00	1.088E-02	1.328E-02	0.3017	0.3684
103	0.900	-0.107	555.3	3.311E+00	4.326E-03	5.228E-03	0.1200	0.1450
57	0.900	0.250	568.6	5.290E+00	7.035E-03	8.533E-03	0.1951	0.2367

RUN 158

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:11:23
DATE RECORDED: 10-JUN-95
TIME RECORDED: 0:47:44
00001125

RUN	SERIES	ELEMENT	MODEL	MACH	PI (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
159	S11R17	F-3	29-O	7.97	393.9	1301.67	30.00	4.96	34.96	-0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.9	0.041	1.831	3845.	3.566E-05	7.798E-08	1.7582E+06	3.308E+06	3.343E-02	0.382

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	561.9	7.179E+00	9.703E-03	1.177E-02	0.2903	0.3523
6	0.060	0.000	550.7	5.268E+00	7.014E-03	8.485E-03	0.2098	0.2538
7	0.080	0.000	540.5	4.373E+00	5.746E-03	6.931E-03	0.1719	0.2074
8	0.100	0.000	533.6	4.039E+00	5.259E-03	6.332E-03	0.1573	0.1894
10	0.150	0.000	519.7	3.345E+00	4.278E-03	5.132E-03	0.1280	0.1535
16	0.192	0.000	507.9	2.897E+00	3.649E-03	4.365E-03	0.1092	0.1306
20	0.250	0.000	509.1	2.849E+00	3.595E-03	4.302E-03	0.1076	0.1287
23	0.300	0.000	508.1	2.539E+00	3.200E-03	3.828E-03	0.0957	0.1145
30	0.350	0.000	514.5	2.426E+00	3.082E-03	3.693E-03	0.0922	0.1105
31	0.400	0.000	514.5	2.160E+00	2.744E-03	3.288E-03	0.0821	0.0984
33	0.450	0.000	518.9	2.128E+00	2.719E-03	3.262E-03	0.0813	0.0976
34	0.500	0.000	521.3	2.222E+00	2.848E-03	3.418E-03	0.0852	0.1022
37	0.550	0.000	522.2	2.115E+00	2.713E-03	3.257E-03	0.0812	0.0974
38	0.600	0.000	528.5	2.121E+00	2.743E-03	3.299E-03	0.0821	0.0987
40	0.650	0.000	535.8	2.071E+00	2.704E-03	3.258E-03	0.0809	0.0975
41	0.700	0.000	542.8	2.046E+00	2.696E-03	3.254E-03	0.0806	0.0973
43	0.750	0.000	545.8	2.071E+00	2.741E-03	3.311E-03	0.0820	0.0990
46	0.850	0.000	551.9	2.152E+00	2.870E-03	3.474E-03	0.0859	0.1039
49	0.950	0.000	547.2	2.237E+00	2.965E-03	3.583E-03	0.0887	0.1072
86	0.125	0.055	530.4	4.089E+00	5.302E-03	6.379E-03	0.1586	0.1908
11	0.150	0.091	520.5	3.894E+00	4.984E-03	5.980E-03	0.1491	0.1789
17	0.192	0.107	517.2	3.509E+00	4.473E-03	5.362E-03	0.1338	0.1604
87	0.300	-0.106	510.7	3.123E+00	3.949E-03	4.726E-03	0.1181	0.1414
88	0.300	0.061	512.8	2.796E+00	3.545E-03	4.245E-03	0.1060	0.1270
89	0.300	0.122	515.5	3.348E+00	4.259E-03	5.104E-03	0.1274	0.1527
24	0.300	0.160	514.0	3.637E+00	4.617E-03	5.531E-03	0.1381	0.1655
25	0.300	0.221	515.5	3.560E+00	4.528E-03	5.427E-03	0.1355	0.1623
90	0.400	-0.107	518.3	2.530E+00	3.230E-03	3.874E-03	0.0966	0.1159
32	0.400	0.107	517.1	2.377E+00	3.029E-03	3.632E-03	0.0906	0.1087
52	0.400	0.250	531.6	5.099E+00	6.621E-03	7.968E-03	0.1981	0.2384
91	0.425	0.061	520.3	2.224E+00	2.846E-03	3.415E-03	0.0851	0.1022
92	0.425	0.178	520.9	2.953E+00	3.782E-03	4.539E-03	0.1132	0.1358
93	0.500	-0.107	520.7	2.122E+00	2.717E-03	3.261E-03	0.0813	0.0975
35	0.500	0.107	518.3	1.999E+00	2.551E-03	3.060E-03	0.0763	0.0915
94	0.500	0.178	522.0	2.666E+00	3.419E-03	4.104E-03	0.1023	0.1228
53	0.500	0.250	534.0	5.173E+00	6.739E-03	8.115E-03	0.2016	0.2428
95	0.600	-0.250	530.7	2.175E+00	2.821E-03	3.395E-03	0.0844	0.1016
39	0.600	0.107	528.2	2.127E+00	2.750E-03	3.307E-03	0.0823	0.0989

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:11:23
DATE RECORDED: 10-JUN-95
TIME RECORDED: 0:47:44
000011256

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
159	S11R17	F-3	29-0	7.97	393.9	1301.67	30.00	4.96	34.96	-0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.9	0.041	1.831	3845.	3.566E-05	7.798E-08	1.7582E+06	3.308E+06	3.343E-02	0.382

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	529.9	2.550E+00	3.304E-03	3.974E-03	0.0988	0.1189
98	0.660	-0.107	539.4	2.081E+00	2.731E-03	3.293E-03	0.0817	0.0985
96	0.660	0.107	536.9	2.391E+00	3.127E-03	3.768E-03	0.0935	0.1127
97	0.660	0.250	540.2	2.098E+00	2.755E-03	3.323E-03	0.0824	0.0994
60	0.660	0.400	563.6	8.352E+00	1.132E-02	1.374E-02	0.3386	0.4110
65	0.700	0.500	579.0	1.011E+01	1.399E-02	1.706E-02	0.4185	0.5105
99	0.750	0.178	546.9	1.917E+00	2.540E-03	3.069E-03	0.0760	0.0918
100	0.755	0.400	571.8	7.628E+00	1.045E-02	1.272E-02	0.3127	0.3805
101	0.800	-0.250	552.3	1.894E+00	2.527E-03	3.059E-03	0.0756	0.0915
45	0.800	0.107	546.8	1.959E+00	2.595E-03	3.135E-03	0.0776	0.0938
56	0.800	0.250	552.9	2.923E+00	3.905E-03	4.726E-03	0.1168	0.1414
66	0.800	0.500	575.1	7.869E+00	1.083E-02	1.319E-02	0.3240	0.3947
70	0.800	0.600	580.7	8.718E+00	1.209E-02	1.476E-02	0.3617	0.4414
75	0.800	0.750	585.0	7.778E+00	1.085E-02	1.326E-02	0.3247	0.3968
102	0.886	0.732	572.6	6.986E+00	9.581E-03	1.166E-02	0.2866	0.3489
103	0.900	-0.107	547.1	2.228E+00	2.953E-03	3.569E-03	0.0883	0.1068
57	0.900	0.250	558.1	3.905E+00	5.252E-03	6.366E-03	0.1571	0.1905

RUN 159

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:14:36
DATE RECORDED: 10-JUN-95
TIME RECORDED: 0:52:14
00001125/

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
160	S11R 9	F-3	29-0	7.96	323.7	1290.67	30.00	9.97	39.97	-0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.3	0.034	1.511	3827	2.972E-05	7.746E-08	1.4684E+06	2.763E+06	3.033E-02	0.392

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	566.1	7.006E+00	9.670E-03	1.177E-02	0.3188	0.3879
6	0.060	0.000	555.7	5.186E+00	7.056E-03	8.559E-03	0.2326	0.2822
7	0.080	0.000	546.7	4.363E+00	5.864E-03	7.095E-03	0.1933	0.2339
8	0.100	0.000	540.9	4.028E+00	5.373E-03	6.490E-03	0.1772	0.2140
10	0.150	0.000	530.0	3.317E+00	4.361E-03	5.252E-03	0.1438	0.1732
16	0.192	0.000	519.5	2.951E+00	3.827E-03	4.596E-03	0.1262	0.1515
20	0.250	0.000	519.4	2.972E+00	3.854E-03	4.628E-03	0.1271	0.1526
23	0.300	0.000	516.8	2.681E+00	3.464E-03	4.158E-03	0.1142	0.1371
30	0.350	0.000	521.6	2.516E+00	3.272E-03	3.932E-03	0.1079	0.1296
31	0.400	0.000	519.7	2.241E+00	2.906E-03	3.491E-03	0.0958	0.1151
33	0.450	0.000	523.1	2.218E+00	2.889E-03	3.473E-03	0.0953	0.1145
34	0.500	0.000	526.5	2.225E+00	2.911E-03	3.503E-03	0.0960	0.1155
37	0.550	0.000	528.0	2.085E+00	2.733E-03	3.290E-03	0.0901	0.1085
38	0.600	0.000	536.4	2.150E+00	2.850E-03	3.439E-03	0.0940	0.1134
40	0.650	0.000	544.1	2.008E+00	2.689E-03	3.251E-03	0.0887	0.1072
41	0.700	0.000	545.4	1.871E+00	2.510E-03	3.035E-03	0.0827	0.1001
43	0.750	0.000	546.9	1.783E+00	2.397E-03	2.900E-03	0.0790	0.0956
46	0.850	0.000	553.1	1.502E+00	2.036E-03	2.468E-03	0.0671	0.0814
49	0.950	0.000	549.4	1.562E+00	2.107E-03	2.552E-03	0.0695	0.0841
86	0.125	0.055	539.2	4.062E+00	5.405E-03	6.525E-03	0.1782	0.2151
11	0.150	0.091	529.6	3.799E+00	4.991E-03	6.011E-03	0.1646	0.1982
17	0.192	0.107	526.4	3.525E+00	4.612E-03	5.549E-03	0.1521	0.1829
87	0.300	-0.106	518.5	3.101E+00	4.017E-03	4.823E-03	0.1324	0.1590
88	0.300	0.061	521.4	2.882E+00	3.746E-03	4.501E-03	0.1235	0.1484
89	0.300	0.122	523.5	3.379E+00	4.405E-03	5.295E-03	0.1452	0.1746
24	0.300	0.160	523.1	4.041E+00	5.265E-03	6.330E-03	0.1736	0.2087
25	0.300	0.221	522.0	3.460E+00	4.501E-03	5.409E-03	0.1484	0.1784
90	0.400	-0.107	523.0	2.466E+00	3.213E-03	3.862E-03	0.1059	0.1273
32	0.400	0.107	521.8	2.412E+00	3.136E-03	3.769E-03	0.1034	0.1243
52	0.400	0.250	535.3	4.693E+00	6.213E-03	7.493E-03	0.2049	0.2471
91	0.425	0.061	524.6	2.339E+00	3.053E-03	3.672E-03	0.1007	0.1211
92	0.425	0.178	524.6	2.876E+00	3.754E-03	4.514E-03	0.1238	0.1488
93	0.500	-0.107	526.0	2.099E+00	2.745E-03	3.303E-03	0.0905	0.1089
35	0.500	0.107	523.2	2.026E+00	2.639E-03	3.173E-03	0.0870	0.1046
94	0.500	0.178	526.7	2.618E+00	3.427E-03	4.123E-03	0.1130	0.1359
53	0.500	0.250	529.9	2.840E+00	3.734E-03	4.496E-03	0.1231	0.1483
95	0.600	-0.250	536.1	2.177E+00	2.885E-03	3.480E-03	0.0951	0.1147
39	0.600	0.107	535.9	2.098E+00	2.780E-03	3.353E-03	0.0916	0.1105

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:14:36
DATE RECORDED: 10-JUN-95
TIME RECORDED: 0:52:14
000011258

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
160	S11R 9	F-3	29-0	7.96	323.7	1290.67	30.00	9.97	39.97	-0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.3	0.034	1.511	3827.	2.972E-05	7.746E-08	1.4684E+06	2.763E+06	3.033E-02	0.392

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	535.9	2.266E+00	3.002E-03	3.621E-03	0.0990	0.1194
98	0.660	-0.107	544.8	2.029E+00	2.720E-03	3.289E-03	0.0897	0.1085
96	0.660	0.107	543.9	2.310E+00	3.093E-03	3.740E-03	0.1020	0.1233
97	0.660	0.250	547.1	1.867E+00	2.510E-03	3.038E-03	0.0828	0.1002
60	0.660	0.400	555.3	2.758E+00	3.751E-03	4.550E-03	0.1237	0.1500
65	0.700	0.500	565.1	3.378E+00	4.655E-03	5.663E-03	0.1535	0.1867
99	0.750	0.178	548.2	1.660E+00	2.236E-03	2.707E-03	0.0737	0.0892
100	0.755	0.400	561.3	2.110E+00	2.893E-03	3.515E-03	0.0954	0.1159
101	0.800	-0.250	552.1	1.905E+00	2.580E-03	3.126E-03	0.0850	0.1031
45	0.800	0.107	548.3	1.476E+00	1.989E-03	2.407E-03	0.0656	0.0794
56	0.800	0.250	553.2	1.875E+00	2.542E-03	3.082E-03	0.0838	0.1016
66	0.800	0.500	567.4	2.424E+00	3.351E-03	4.079E-03	0.1105	0.1345
70	0.800	0.600	573.7	2.965E+00	4.135E-03	5.043E-03	0.1363	0.1663
75	0.800	0.750	580.0	3.056E+00	4.300E-03	5.254E-03	0.1418	0.1732
102	0.886	0.732	570.8	2.736E+00	3.800E-03	4.630E-03	0.1253	0.1527
103	0.900	-0.107	548.9	1.696E+00	2.286E-03	2.767E-03	0.0754	0.0912
57	0.900	0.250	558.1	2.267E+00	3.095E-03	3.757E-03	0.1021	0.1239

RUN 160

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:14:40
DATE RECORDED: 10-JUN-95
TIME RECORDED: 0:54.41
000011259

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
161	S11R11	F-3	29-0	7.96	330.4	1287.67	30.00	4.93	34.93	-0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.0	0.035	1.542	3822.	3.040E-05	7.725E-08	1.5041E+06	2.830E+06	3.062E-02	0.391

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.91T) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	570.8	6.345E+00	8.851E-03	1.079E-02	0.2890	0.3523
6	0.060	0.000	559.8	4.668E+00	6.414E-03	7.793E-03	0.2095	0.2545
7	0.080	0.000	549.1	3.881E+00	5.255E-03	6.365E-03	0.1716	0.2078
8	0.100	0.000	540.9	3.599E+00	4.819E-03	5.823E-03	0.1574	0.1902
10	0.150	0.000	523.8	2.980E+00	3.901E-03	4.692E-03	0.1274	0.1532
16	0.192	0.000	509.6	2.701E+00	3.471E-03	4.159E-03	0.1133	0.1358
20	0.250	0.000	513.8	2.472E+00	3.194E-03	3.832E-03	0.1043	0.1251
23	0.300	0.000	514.0	2.234E+00	2.887E-03	3.463E-03	0.0943	0.1131
30	0.350	0.000	520.8	2.145E+00	2.797E-03	3.361E-03	0.0913	0.1098
31	0.400	0.000	520.6	1.858E+00	2.423E-03	2.912E-03	0.0791	0.0951
33	0.450	0.000	525.9	1.856E+00	2.437E-03	2.932E-03	0.0796	0.0958
34	0.500	0.000	528.3	1.901E+00	2.503E-03	3.014E-03	0.0817	0.0984
37	0.550	0.000	527.2	1.858E+00	2.443E-03	2.942E-03	0.0798	0.0961
38	0.600	0.000	533.0	1.812E+00	2.402E-03	2.896E-03	0.0784	0.0946
40	0.650	0.000	540.4	1.734E+00	2.320E-03	2.803E-03	0.0758	0.0915
41	0.700	0.000	546.3	1.622E+00	2.188E-03	2.647E-03	0.0714	0.0865
43	0.750	0.000	548.4	1.577E+00	2.133E-03	2.583E-03	0.0696	0.0843
46	0.850	0.000	552.5	1.385E+00	1.884E-03	2.284E-03	0.0615	0.0746
49	0.950	0.000	547.8	1.192E+00	1.611E-03	1.950E-03	0.0526	0.0637
86	0.125	0.055	536.0	3.609E+00	4.802E-03	5.794E-03	0.1568	0.1892
11	0.150	0.091	524.5	3.483E+00	4.564E-03	5.490E-03	0.1490	0.1793
17	0.192	0.107	520.5	3.144E+00	4.098E-03	4.924E-03	0.1338	0.1608
87	0.300	-0.106	515.9	2.730E+00	3.537E-03	4.246E-03	0.1155	0.1386
88	0.300	0.061	518.8	2.451E+00	3.188E-03	3.829E-03	0.1041	0.1250
89	0.300	0.122	520.9	2.892E+00	3.771E-03	4.533E-03	0.1232	0.1480
24	0.300	0.160	518.7	3.040E+00	3.953E-03	4.748E-03	0.1291	0.1551
25	0.300	0.221	521.1	3.149E+00	4.108E-03	4.938E-03	0.1342	0.1612
90	0.400	-0.107	524.6	2.182E+00	2.860E-03	3.440E-03	0.0934	0.1123
32	0.400	0.107	523.4	2.124E+00	2.780E-03	3.343E-03	0.0908	0.1092
52	0.400	0.250	533.1	3.600E+00	4.772E-03	5.753E-03	0.1558	0.1879
91	0.425	0.061	526.9	1.976E+00	2.598E-03	3.127E-03	0.0848	0.1021
92	0.425	0.178	526.7	2.570E+00	3.377E-03	4.064E-03	0.1103	0.1327
93	0.500	-0.107	526.9	1.873E+00	2.462E-03	2.964E-03	0.0804	0.0968
35	0.500	0.107	525.3	1.752E+00	2.298E-03	2.765E-03	0.0750	0.0903
94	0.500	0.178	527.8	2.261E+00	2.976E-03	3.583E-03	0.0972	0.1170
53	0.500	0.250	534.6	3.877E+00	5.148E-03	6.209E-03	0.1681	0.2028
95	0.600	-0.250	535.2	1.918E+00	2.549E-03	3.075E-03	0.0832	0.1004
39	0.600	0.107	532.6	1.905E+00	2.523E-03	3.042E-03	0.0824	0.0993

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:14:40
DATE RECORDED: 10-JUN-95
TIME RECORDED: 0:54:41
000011260

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
161	S11R11	F-3	29-0	7.96	330.4	1287.67	30.00	4.93	34.93	-0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.0	0.035	1.542	3822.	3.040E-05	7.725E-08	1.5041E+06	2.830E+06	3.062E-02	0.391

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	533.3	2.007E+00	2.660E-03	3.207E-03	0.0869	0.1047
98	0.660	-0.107	543.7	1.738E+00	2.336E-03	2.824E-03	0.0763	0.0922
96	0.660	0.107	540.8	1.988E+00	2.662E-03	3.216E-03	0.0869	0.1050
97	0.660	0.250	544.5	1.704E+00	2.293E-03	2.774E-03	0.0749	0.0906
60	0.660	0.400	565.2	7.014E+00	9.707E-03	1.181E-02	0.3170	0.3858
65	0.700	0.500	581.1	8.643E+00	1.223E-02	1.496E-02	0.3994	0.4885
99	0.750	0.178	549.4	1.488E+00	2.015E-03	2.441E-03	0.0658	0.0797
100	0.755	0.400	573.5	6.345E+00	8.884E-03	1.084E-02	0.2901	0.3539
101	0.800	-0.250	553.9	1.568E+00	2.136E-03	2.591E-03	0.0698	0.0846
45	0.800	0.107	547.9	1.407E+00	1.903E-03	2.304E-03	0.0621	0.0752
56	0.800	0.250	553.5	1.907E+00	2.597E-03	3.149E-03	0.0848	0.1028
66	0.800	0.500	577.5	6.733E+00	9.481E-03	1.158E-02	0.3096	0.3782
70	0.800	0.600	583.9	7.347E+00	1.044E-02	1.278E-02	0.3409	0.4173
75	0.800	0.750	584.5	4.504E+00	6.405E-03	7.841E-03	0.2092	0.2561
102	0.886	0.732	575.4	5.918E+00	8.308E-03	1.014E-02	0.2713	0.3312
103	0.900	-0.107	548.9	1.398E+00	1.893E-03	2.292E-03	0.0618	0.0749
57	0.900	0.250	557.9	2.539E+00	3.480E-03	4.225E-03	0.1136	0.1380

RUN 161

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:14:43
DATE RECORDED: 10-JUN-95
TIME RECORDED: 1:08:59
00001126I

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
162	S5R 5	G-2	29-O	7.98	461.7	1313.67	30.00	9.96	39.96	-0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.7	0.048	2.138	3865.	4.122E-05	7.861E-08	2.0267E+06	3.814E+06	3.618E-02	0.397

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	573.5	8.793E+00	1.188E-02	1.444E-02	0.3283	0.3992
6	0.060	0.000	562.6	6.448E+00	8.585E-03	1.040E-02	0.2373	0.2876
7	0.080	0.000	555.6	5.418E+00	7.147E-03	8.646E-03	0.1976	0.2390
8	0.100	0.000	552.4	4.974E+00	6.534E-03	7.896E-03	0.1806	0.2183
10	0.150	0.000	547.2	4.024E+00	5.250E-03	6.336E+03	0.1451	0.1751
16	0.192	0.000	540.1	3.534E+00	4.568E-03	5.502E-03	0.1263	0.1521
20	0.250	0.000	541.0	3.565E+00	4.614E-03	5.560E-03	0.1275	0.1537
23	0.300	0.000	537.0	3.312E+00	4.264E-03	5.132E-03	0.1178	0.1418
30	0.350	0.000	538.1	3.113E+00	4.014E-03	4.832E-03	0.1109	0.1336
31	0.400	0.000	544.2	4.564E+00	5.931E-03	7.152E-03	0.1639	0.1977
33	0.450	0.000	555.9	7.159E+00	9.448E-03	1.143E-02	0.2611	0.3159
34	0.500	0.000	563.6	8.479E+00	1.130E-02	1.370E-02	0.3124	0.3788
37	0.550	0.000	563.4	8.263E+00	1.101E-02	1.335E-02	0.3044	0.3691
38	0.600	0.000	567.5	8.269E+00	1.108E-02	1.345E-02	0.3063	0.3718
40	0.650	0.000	571.0	8.117E+00	1.093E-02	1.328E-02	0.3021	0.3670
41	0.700	0.000	571.6	7.911E+00	1.066E-02	1.295E-02	0.2947	0.3580
43	0.750	0.000	570.5	7.636E+00	1.027E-02	1.248E-02	0.2840	0.3450
46	0.850	0.000	572.4	7.491E+00	1.011E-02	1.228E-02	0.2793	0.3395
49	0.950	0.000	571.7	6.050E+00	8.154E-03	9.909E-03	0.2254	0.2739
86	0.125	0.055	553.5	4.995E+00	6.571E-03	7.943E-03	0.1816	0.2196
11	0.150	0.091	547.4	4.613E+00	6.020E-03	7.265E-03	0.1664	0.2008
17	0.192	0.107	545.8	4.235E+00	5.515E-03	6.653E-03	0.1524	0.1839
87	0.300	-0.106	538.4	3.853E+00	4.970E-03	5.984E-03	0.1374	0.1654
88	0.300	0.061	540.9	3.439E+00	4.450E-03	5.362E-03	0.1230	0.1482
89	0.300	0.122	543.6	4.138E+00	5.373E-03	6.478E-03	0.1485	0.1790
24	0.300	0.160	541.6	4.212E+00	5.455E-03	6.574E-03	0.1508	0.1817
25	0.300	0.221	541.0	4.314E+00	5.583E-03	6.727E-03	0.1543	0.1859
90	0.400	-0.107	538.4	3.179E+00	4.100E-03	4.937E-03	0.1133	0.1365
32	0.400	0.107	537.0	3.062E+00	3.943E-03	4.746E-03	0.1090	0.1312
52	0.400	0.250	541.7	3.810E+00	4.936E-03	5.948E-03	0.1364	0.1644
91	0.425	0.061	539.1	2.935E+00	3.789E-03	4.563E-03	0.1047	0.1261
92	0.425	0.178	540.1	3.586E+00	4.636E-03	5.584E-03	0.1281	0.1544
93	0.500	-0.107	539.4	2.571E+00	3.320E-03	3.999E-03	0.0918	0.1105
35	0.500	0.107	537.7	2.553E+00	3.290E-03	3.960E-03	0.0909	0.1095
94	0.500	0.178	541.0	3.260E+00	4.219E-03	5.084E-03	0.1166	0.1405
53	0.500	0.250	544.0	3.501E+00	4.548E-03	5.484E-03	0.1257	0.1516
95	0.600	-0.250	549.7	2.821E+00	3.693E-03	4.460E-03	0.1021	0.1233
39	0.600	0.107	550.9	2.854E+00	3.742E-03	4.521E-03	0.1034	0.1249

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:14:43
DATE RECORDED: 10-JUN-95
TIME RECORDED: 1:08:59
000011262

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
162	S5R 5	G-2	29-O	7.98	461.7	1313.67	30.00	9.96	39.96	-0.02

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
97.7	0.048	2.138	3865.	4.122E-05	7.861E-08	2.0267E+06	3.814E+06	3.618E-02	0.397

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	550.8	2.817E+00	3.693E-03	4.461E-03	0.1021	0.1233
98	0.660	-0.107	560.6	3.695E+00	4.907E-03	5.943E-03	0.1356	0.1643
96	0.660	0.107	566.1	5.652E+00	7.561E-03	9.173E-03	0.2090	0.2535
97	0.660	0.250	560.2	2.569E+00	3.410E-03	4.130E-03	0.0942	0.1141
60	0.660	0.400	566.6	3.539E+00	4.737E-03	5.748E-03	0.1309	0.1589
65	0.700	0.500	572.1	4.170E+00	5.623E-03	6.834E-03	0.1554	0.1889
99	0.750	0.178	564.9	3.976E+00	5.310E-03	6.439E-03	0.1468	0.1780
100	0.755	0.400	568.1	3.259E+00	4.371E-03	5.306E-03	0.1208	0.1467
101	0.800	-0.250	563.4	3.589E+00	4.783E-03	5.798E-03	0.1322	0.1603
45	0.800	0.107	574.7	7.643E+00	1.034E-02	1.258E-02	0.2859	0.3477
56	0.800	0.250	565.0	3.657E+00	4.885E-03	5.924E-03	0.1350	0.1637
66	0.800	0.500	571.1	3.442E+00	4.635E-03	5.631E-03	0.1281	0.1556
70	0.800	0.600	580.7	3.939E+00	5.374E-03	6.547E-03	0.1485	0.1810
75	0.800	0.750	579.3	3.871E+00	5.271E-03	6.419E-03	0.1457	0.1774
102	0.886	0.732	579.3	3.590E+00	4.888E-03	5.953E-03	0.1351	0.1645
103	0.900	-0.107	565.9	6.435E+00	8.607E-03	1.044E-02	0.2379	0.2886
57	0.900	0.250	570.2	5.489E+00	7.384E-03	8.968E-03	0.2041	0.2479

RUN 162

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:14:47
DATE RECORDED: 10-JUN-95
TIME RECORDED: 1:16:47
00001126J

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
163	S5R 9	G-2	29-0	7.96	333.4	1292.67	30.00	9.96	39.96	-0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.4	0.035	1.556	3830	3.054E-05	7.756E-08	1.5081E+06	2.838E+06	3.078E-02	0.401

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	566.4	7.155E+00	9.852E-03	1.199E-02	0.3201	0.3894
6	0.060	0.000	557.4	5.336E+00	7.258E-03	8.806E-03	0.2358	0.2861
7	0.080	0.000	549.8	4.457E+00	5.999E-03	7.263E-03	0.1949	0.2360
8	0.100	0.000	545.7	4.104E+00	5.495E-03	6.645E-03	0.1785	0.2159
10	0.150	0.000	540.5	3.293E+00	4.378E-03	5.286E-03	0.1422	0.1718
16	0.192	0.000	532.4	2.943E+00	3.872E-03	4.665E-03	0.1258	0.1516
20	0.250	0.000	534.1	2.913E+00	3.840E-03	4.629E-03	0.1248	0.1504
23	0.300	0.000	530.5	2.735E+00	3.588E-03	4.321E-03	0.1166	0.1404
30	0.350	0.000	534.3	2.574E+00	3.394E-03	4.092E-03	0.1103	0.1330
31	0.400	0.000	534.5	2.672E+00	3.524E-03	4.248E-03	0.1145	0.1380
33	0.450	0.000	535.9	2.499E+00	3.302E-03	3.982E-03	0.1073	0.1294
34	0.500	0.000	540.8	2.536E+00	3.373E-03	4.073E-03	0.1096	0.1323
37	0.550	0.000	543.1	2.611E+00	3.484E-03	4.209E-03	0.1132	0.1368
38	0.600	0.000	550.7	2.765E+00	3.727E-03	4.513E-03	0.1211	0.1466
40	0.650	0.000	557.2	2.859E+00	3.887E-03	4.716E-03	0.1263	0.1532
41	0.700	0.000	558.2	2.943E+00	4.006E-03	4.862E-03	0.1302	0.1580
43	0.750	0.000	558.6	3.025E+00	4.121E-03	5.002E-03	0.1339	0.1625
46	0.850	0.000	562.6	3.258E+00	4.463E-03	5.423E-03	0.1450	0.1762
49	0.950	0.000	565.7	2.929E+00	4.029E-03	4.900E-03	0.1309	0.1592
86	0.125	0.055	546.5	4.109E+00	5.507E-03	6.661E-03	0.1789	0.2164
11	0.150	0.091	540.1	3.785E+00	5.030E-03	6.073E-03	0.1634	0.1973
17	0.192	0.107	538.9	3.495E+00	4.637E-03	5.597E-03	0.1507	0.1818
87	0.300	-0.106	533.1	3.133E+00	4.125E-03	4.971E-03	0.1340	0.1615
88	0.300	0.061	534.9	2.884E+00	3.806E-03	4.589E-03	0.1237	0.1491
89	0.300	0.122	537.5	3.375E+00	4.469E-03	5.392E-03	0.1452	0.1752
24	0.300	0.160	535.0	3.483E+00	4.597E-03	5.542E-03	0.1493	0.1801
25	0.300	0.221	535.0	3.526E+00	4.654E-03	5.611E-03	0.1512	0.1823
90	0.400	-0.107	536.1	2.577E+00	3.406E-03	4.108E-03	0.1107	0.1335
32	0.400	0.107	533.5	2.533E+00	3.336E-03	4.021E-03	0.1084	0.1307
52	0.400	0.250	539.0	3.109E+00	4.126E-03	4.980E-03	0.1340	0.1618
91	0.425	0.061	537.0	2.389E+00	3.162E-03	3.814E-03	0.1027	0.1239
92	0.425	0.178	536.9	2.911E+00	3.852E-03	4.647E-03	0.1252	0.1510
93	0.500	-0.107	538.2	2.062E+00	2.733E-03	3.298E-03	0.0888	0.1072
35	0.500	0.107	535.7	2.000E+00	2.642E-03	3.186E-03	0.0858	0.1035
94	0.500	0.178	538.2	2.569E+00	3.404E-03	4.108E-03	0.1105	0.1335
53	0.500	0.250	541.2	2.790E+00	3.712E-03	4.483E-03	0.1206	0.1457
95	0.600	-0.250	548.3	2.206E+00	2.963E-03	3.586E-03	0.0963	0.1165
39	0.600	0.107	548.5	2.143E+00	2.880E-03	3.485E-03	0.0936	0.1132

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06.14.47
DATE RECORDED: 10-JUN-95
TIME RECORDED: 1.16.47
000011264

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
163	S5R 9	G-2	29-0	7.96	333.4	1292.67	30.00	9.96	39.96	-0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
96.4	0.035	1.556	3830	3.054E-05	7.756E-08	1.5081E+06	2.838E+06	3.078E-02	0.401

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	547.7	2.245E+00	3.013E-03	3.645E-03	0.0979	0.1184
98	0.660	-0.107	555.7	2.058E+00	2.793E-03	3.387E-03	0.0907	0.1101
96	0.660	0.107	555.0	2.381E+00	3.227E-03	3.913E-03	0.1049	0.1271
97	0.660	0.250	555.8	1.941E+00	2.634E-03	3.194E-03	0.0856	0.1038
60	0.660	0.400	561.0	2.777E+00	3.795E-03	4.609E-03	0.1233	0.1498
65	0.700	0.500	565.6	3.369E+00	4.634E-03	5.636E-03	0.1506	0.1831
99	0.750	0.178	557.4	1.728E+00	2.350E-03	2.852E-03	0.0764	0.0927
100	0.755	0.400	561.8	2.210E+00	3.023E-03	3.673E-03	0.0982	0.1193
101	0.800	-0.250	558.8	1.969E+00	2.683E-03	3.256E-03	0.0872	0.1058
45	0.800	0.107	560.4	2.395E+00	3.271E-03	3.972E-03	0.1063	0.1291
56	0.800	0.250	558.4	1.903E+00	2.592E-03	3.146E-03	0.0842	0.1022
66	0.800	0.500	563.8	2.469E+00	3.388E-03	4.118E-03	0.1101	0.1338
70	0.800	0.600	572.8	2.986E+00	4.148E-03	5.056E-03	0.1348	0.1643
75	0.800	0.750	571.6	3.084E+00	4.277E-03	5.211E-03	0.1390	0.1693
102	0.886	0.732	572.3	2.724E+00	3.781E-03	4.608E-03	0.1228	0.1497
103	0.900	-0.107	557.6	2.548E+00	3.467E-03	4.207E-03	0.1126	0.1367
57	0.900	0.250	563.5	2.415E+00	3.312E-03	4.025E-03	0.1076	0.1308

RUN 163

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06 14 50
DATE RECORDED: 10-JUN-95
TIME RECORDED: 1:19 38
000011765

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
164	S5R15	G-2	29-0	7 95	268 3	1274 67	30 00	9 96	39 96	-0 04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1 882FT)	HREF (RN=0 0175FT)	TW/TT
95 2	0 028	1 259	3801	2 510E-05	7 661E-08	1 2455E+06	2 344E+06	2 763E-02	0 405

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	572.2	6.173E+00	8.788E-03	1.074E-02	0.3181	0.3886
6	0.060	0.000	562.9	4.522E+00	6.353E-03	7.740E-03	0.2300	0.2802
7	0.080	0.000	554.1	3.809E+00	5.286E-03	6.422E-03	0.1914	0.2325
8	0.100	0.000	547.5	3.582E+00	4.926E-03	5.973E-03	0.1783	0.2162
10	0.150	0.000	537.1	2.945E+00	3.994E-03	4.828E-03	0.1446	0.1748
16	0.192	0.000	526.6	2.631E+00	3.517E-03	4.239E-03	0.1273	0.1535
20	0.250	0.000	526.5	2.564E+00	3.428E-03	4.132E-03	0.1241	0.1496
23	0.300	0.000	524.7	2.396E+00	3.195E-03	3.849E-03	0.1156	0.1393
30	0.350	0.000	531.3	2.240E+00	3.013E-03	3.637E-03	0.1091	0.1316
31	0.400	0.000	533.4	2.149E+00	2.899E-03	3.501E-03	0.1049	0.1267
33	0.450	0.000	536.5	2.001E+00	2.711E-03	3.276E-03	0.0981	0.1186
34	0.500	0.000	539.9	1.983E+00	2.699E-03	3.266E-03	0.0977	0.1182
37	0.550	0.000	540.4	1.862E+00	2.536E-03	3.069E-03	0.0918	0.1111
38	0.600	0.000	545.5	1.834E+00	2.516E-03	3.049E-03	0.0911	0.1104
40	0.650	0.000	551.9	1.696E+00	2.347E-03	2.849E-03	0.0849	0.1031
41	0.700	0.000	553.4	1.631E+00	2.261E-03	2.747E-03	0.0819	0.0994
43	0.750	0.000	553.4	1.547E+00	2.145E-03	2.606E-03	0.0777	0.0943
46	0.850	0.000	557.2	1.163E+00	1.621E-03	1.971E-03	0.0587	0.0714
49	0.950	0.000	561.4	1.063E+00	1.490E-03	1.814E-03	0.0539	0.0657
86	0.125	0.055	545.4	3.634E+00	4.983E-03	6.038E-03	0.1804	0.2186
11	0.150	0.091	537.3	3.392E+00	4.600E-03	5.562E-03	0.1665	0.2013
17	0.192	0.107	534.4	3.121E+00	4.216E-03	5.093E-03	0.1526	0.1844
87	0.300	-0.106	527.8	2.761E+00	3.697E-03	4.458E-03	0.1338	0.1614
88	0.300	0.061	528.9	2.580E+00	3.459E-03	4.172E-03	0.1252	0.1510
89	0.300	0.122	532.1	2.973E+00	4.003E-03	4.833E-03	0.1449	0.1749
24	0.300	0.160	530.3	3.057E+00	4.107E-03	4.956E-03	0.1487	0.1794
25	0.300	0.221	531.6	3.059E+00	4.117E-03	4.969E-03	0.1490	0.1799
90	0.400	-0.107	535.8	2.147E+00	2.906E-03	3.512E-03	0.1052	0.1271
32	0.400	0.107	533.6	2.104E+00	2.838E-03	3.428E-03	0.1027	0.1241
52	0.400	0.250	538.6	2.674E+00	3.633E-03	4.393E-03	0.1315	0.1590
91	0.425	0.061	537.5	2.021E+00	2.742E-03	3.315E-03	0.0993	0.1200
92	0.425	0.178	537.2	2.479E+00	3.361E-03	4.064E-03	0.1217	0.1471
93	0.500	-0.107	538.4	1.842E+00	2.501E-03	3.025E-03	0.0905	0.1095
35	0.500	0.107	536.8	1.750E+00	2.372E-03	2.867E-03	0.0859	0.1038
94	0.500	0.178	538.6	2.294E+00	3.117E-03	3.770E-03	0.1128	0.1365
53	0.500	0.250	540.6	2.460E+00	3.351E-03	4.056E-03	0.1213	0.1468
95	0.600	-0.250	546.4	1.913E+00	2.627E-03	3.185E-03	0.0951	0.1153
39	0.600	0.107	545.6	1.814E+00	2.489E-03	3.016E-03	0.0901	0.1092

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:14:50
DATE RECORDED: 10-JUN-95
TIME RECORDED: 1:19:38
000011266

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
164	S5R15	G-2	29-O	7.95	268.3	1274.67	30.00	9.96	39.96	-0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
95.2	0.028	1.259	3801	2.510E-05	7.661E-08	1.2455E+06	2.344E+06	2.763E-02	0.405

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	545.3	1.970E+00	2.701E-03	3.273E-03	0.0978	0.1185
98	0.660	-0.107	553.5	1.724E+00	2.390E-03	2.904E-03	0.0865	0.1051
96	0.660	0.107	552.3	2.009E+00	2.781E-03	3.377E-03	0.1007	0.1222
97	0.660	0.250	553.4	1.640E+00	2.273E-03	2.761E-03	0.0823	0.1000
60	0.660	0.400	558.3	2.443E+00	3.410E-03	4.148E-03	0.1234	0.1502
65	0.700	0.500	564.4	2.930E+00	4.125E-03	5.027E-03	0.1493	0.1820
99	0.750	0.178	555.1	1.449E+00	2.013E-03	2.447E-03	0.0729	0.0886
100	0.755	0.400	561.1	1.853E+00	2.597E-03	3.162E-03	0.0940	0.1144
101	0.800	-0.250	557.6	1.547E+00	2.158E-03	2.625E-03	0.0781	0.0950
45	0.809	0.107	555.9	1.328E+00	1.848E-03	2.246E-03	0.0669	0.0813
56	0.800	0.250	556.1	1.503E+00	2.092E-03	2.543E-03	0.0757	0.0920
66	0.800	0.500	564.3	2.132E+00	3.002E-03	3.658E-03	0.1087	0.1324
70	0.800	0.600	573.4	2.616E+00	3.729E-03	4.558E-03	0.1350	0.1650
75	0.800	0.750	573.9	2.661E+00	3.797E-03	4.641E-03	0.1374	0.1680
102	0.886	0.732	570.6	2.306E+00	3.276E-03	4.000E-03	0.1186	0.1448
103	0.900	-0.107	555.0	1.268E+00	1.762E-03	2.142E-03	0.0638	0.0775
57	0.900	0.250	560.9	1.750E+00	2.452E-03	2.985E-03	0.0887	0.1080

RUN 164

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:15:13
DATE RECORDED: 10-JUN-95
TIME RECORDED: 1:25:59
000011267

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
165	S5R17	G-2	29-0	7.93	206.8	1252.67	30.00	9.97	39.97	0.00

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.8	0.022	0.978	3765.	1.986E-05	7.545E-08	9.9123E+05	1.865E+06	2.427E-02	0.412

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	559.5	5.343E+00	7.708E-03	9.408E-03	0.3176	0.3877
6	0.060	0.000	552.0	3.943E+00	5.627E-03	6.852E-03	0.2319	0.2823
7	0.080	0.000	544.8	3.393E+00	4.794E-03	5.825E-03	0.1975	0.2400
8	0.100	0.000	540.2	3.040E+00	4.267E-03	5.177E-03	0.1758	0.2133
10	0.150	0.000	533.2	2.542E+00	3.533E-03	4.278E-03	0.1456	0.1763
16	0.192	0.000	524.6	2.234E+00	3.069E-03	3.707E-03	0.1265	0.1527
20	0.250	0.000	525.1	2.123E+00	2.918E-03	3.525E-03	0.1202	0.1453
23	0.300	0.000	523.5	2.049E+00	2.809E-03	3.392E-03	0.1158	0.1398
30	0.350	0.000	529.6	1.863E+00	2.577E-03	3.117E-03	0.1062	0.1284
31	0.400	0.000	530.3	1.831E+00	2.534E-03	3.066E-03	0.1044	0.1263
33	0.450	0.000	532.7	1.733E+00	2.407E-03	2.914E-03	0.0992	0.1201
34	0.500	0.000	535.5	1.739E+00	2.425E-03	2.938E-03	0.0999	0.1211
37	0.550	0.000	536.6	1.612E+00	2.250E-03	2.728E-03	0.0927	0.1124
38	0.600	0.000	541.3	1.568E+00	2.203E-03	2.674E-03	0.0908	0.1102
40	0.650	0.000	546.6	1.346E+00	1.906E-03	2.317E-03	0.0785	0.0955
41	0.700	0.000	546.4	6.670E-01	9.444E-04	1.148E-03	0.0389	0.0473
43	0.750	0.000	549.4	1.975E+00	2.808E-03	3.417E-03	0.1157	0.1408
46	0.850	0.000	566.0	7.472E+00	1.088E-02	1.331E-02	0.4484	0.5484
49	0.950	0.000	567.0	6.233E+00	9.090E-03	1.112E-02	0.3746	0.4583
86	0.125	0.055	539.7	3.072E+00	4.308E-03	5.227E-03	0.1775	0.2154
11	0.150	0.091	532.9	2.935E+00	4.077E-03	4.936E-03	0.1680	0.2034
17	0.192	0.107	531.1	2.661E+00	3.688E-03	4.463E-03	0.1520	0.1839
87	0.300	-0.106	525.8	2.296E+00	3.159E-03	3.816E-03	0.1302	0.1572
88	0.300	0.061	527.5	2.154E+00	2.970E-03	3.590E-03	0.1224	0.1479
89	0.300	0.122	529.6	2.461E+00	3.404E-03	4.117E-03	0.1403	0.1697
24	0.300	0.160	527.7	2.547E+00	3.513E-03	4.247E-03	0.1448	0.1750
25	0.300	0.221	528.6	2.620E+00	3.619E-03	4.376E-03	0.1491	0.1803
90	0.400	-0.107	532.9	1.903E+00	2.645E-03	3.202E-03	0.1090	0.1319
32	0.400	0.107	530.6	1.867E+00	2.586E-03	3.129E-03	0.1066	0.1289
52	0.400	0.250	535.2	2.312E+00	3.223E-03	3.905E-03	0.1328	0.1609
91	0.425	0.061	533.9	1.735E+00	2.414E-03	2.923E-03	0.0995	0.1204
92	0.425	0.178	533.6	2.195E+00	3.053E-03	3.697E-03	0.1258	0.1523
93	0.500	-0.107	535.1	1.630E+00	2.271E-03	2.752E-03	0.0936	0.1134
35	0.500	0.107	532.7	1.577E+00	2.190E-03	2.651E-03	0.0902	0.1093
94	0.500	0.178	534.3	2.004E+00	2.790E-03	3.379E-03	0.1150	0.1393
53	0.500	0.250	536.7	2.088E+00	2.916E-03	3.535E-03	0.1202	0.1457
95	0.600	-0.250	542.8	1.678E+00	2.364E-03	2.870E-03	0.0974	0.1183
39	0.600	0.107	541.0	1.591E+00	2.235E-03	2.712E-03	0.0921	0.1118

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06 15 13
DATE RECORDED: 10-JUN-95
TIME RECORDED: 1:25:59
000011268

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
165	S5R17	G-2	29-O	7.93	206.8	1252.67	30.00	9.97	39.97	0.00

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
93.8	0.022	0.978	3765.	1.986E-05	7.545E-08	9.9123E+05	1.865E+06	2.427E-02	0.412

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	540.7	1.699E+00	2.387E-03	2.897E-03	0.0984	0.1194
98	0.660	-0.107	548.0	1.256E+00	1.783E-03	2.169E-03	0.0735	0.0894
96	0.660	0.107	546.1	1.451E+00	2.053E-03	2.496E-03	0.0846	0.1028
97	0.660	0.250	547.3	1.316E+00	1.866E-03	2.268E-03	0.0769	0.0935
60	0.660	0.400	551.1	2.058E+00	2.934E-03	3.571E-03	0.1209	0.1472
65	0.700	0.500	555.1	2.502E+00	3.587E-03	4.373E-03	0.1478	0.1802
99	0.750	0.178	550.3	1.612E+00	2.294E-03	2.792E-03	0.0945	0.1151
100	0.755	0.400	552.6	1.532E+00	2.188E-03	2.665E-03	0.0902	0.1098
101	0.800	-0.250	562.2	5.748E+00	8.325E-03	1.017E-02	0.3430	0.4190
45	0.800	0.107	557.7	4.301E+00	6.188E-03	7.549E-03	0.2550	0.3111
56	0.800	0.250	558.7	5.348E+00	7.706E-03	9.403E-03	0.3175	0.3874
66	0.800	0.500	571.3	1.004E+01	1.474E-02	1.806E-02	0.6072	0.7440
70	0.800	0.600	574.8	8.676E+00	1.280E-02	1.570E-02	0.5274	0.6470
75	0.800	0.750	563.7	3.377E+00	4.902E-03	5.992E-03	0.2020	0.2469
102	0.886	0.732	567.3	4.968E+00	7.249E-03	8.870E-03	0.2987	0.3655
103	0.900	-0.107	559.6	5.639E+00	8.136E-03	9.931E-03	0.3352	0.4092
57	0.900	0.250	564.0	5.842E+00	8.483E-03	1.037E-02	0.3495	0.4273

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL 95
TIME COMPUTED: 06 15 16
DATE RECORDED: 10-JUN 95
TIME RECORDED: 1 40 .F
000011269

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
166	S5R19	G-2	29-O	7.91	125.1	1139.67	30.00	9.98	39.98	-0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
85.3	0.014	0.600	3582.	1.346E-05	6.866E-08	7.0251E+05	1.322E+06	1.870E-02	0.476

CO-AXIAL DATA

GAGE NO	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	577.3	3.337E+00	5.935E-03	7.443E-03	0.3174	0.3981
6	0.060	0.000	572.1	2.474E+00	4.359E-03	5.454E-03	0.2331	0.2917
7	0.080	0.000	566.8	2.043E+00	3.566E-03	4.451E-03	0.1907	0.2381
8	0.100	0.000	564.9	1.913E+00	3.328E-03	4.152E-03	0.1780	0.2220
10	0.150	0.000	560.4	1.524E+00	2.630E-03	3.275E-03	0.1407	0.1751
16	0.192	0.000	553.4	1.345E+00	2.293E-03	2.847E-03	0.1227	0.1522
20	0.250	0.000	552.3	1.292E+00	2.200E-03	2.730E-03	0.1177	0.1460
23	0.300	0.000	547.8	1.236E+00	2.088E-03	2.586E-03	0.1117	0.1383
30	0.350	0.000	548.9	1.088E+00	1.841E-03	2.281E-03	0.0985	0.1220
31	0.400	0.000	545.2	1.117E+00	1.880E-03	2.325E-03	0.1005	0.1244
33	0.450	0.000	547.1	1.071E+00	1.808E-03	2.238E-03	0.0967	0.1197
34	0.500	0.000	550.1	9.476E-01	1.607E-03	1.992E-03	0.0860	0.1066
37	0.550	0.000	554.2	6.712E-01	1.146E-03	1.423E-03	0.0613	0.0761
38	0.600	0.000	563.8	1.243E+00	2.158E-03	2.690E-03	0.1154	0.1439
40	0.650	0.000	567.9	2.955E+00	5.168E-03	6.455E-03	0.2764	0.3452
41	0.700	0.000	567.8	3.457E+00	6.045E-03	7.550E-03	0.3233	0.4038
43	0.750	0.000	568.4	3.852E+00	6.742E-03	8.423E-03	0.3606	0.4504
46	0.850	0.000	572.5	3.870E+00	6.824E-03	8.540E-03	0.3650	0.4567
49	0.950	0.000	567.9	3.647E+00	6.379E-03	7.967E-03	0.3411	0.4261
86	0.125	0.055	565.3	1.896E+00	3.302E-03	4.119E-03	0.1766	0.2203
11	0.150	0.091	558.1	1.786E+00	3.071E-03	3.820E-03	0.1642	0.2043
17	0.192	0.107	557.0	1.601E+00	2.747E-03	3.415E-03	0.1469	0.1826
87	0.300	-0.106	547.5	1.432E+00	2.419E-03	2.995E-03	0.1294	0.1602
88	0.300	0.061	551.3	1.310E+00	2.226E-03	2.761E-03	0.1191	0.1477
89	0.300	0.122	550.9	1.548E+00	2.629E-03	3.260E-03	0.1406	0.1744
24	0.300	0.160	548.1	1.602E+00	2.707E-03	3.353E-03	0.1448	0.1793
25	0.300	0.221	548.4	1.699E+00	2.873E-03	3.559E-03	0.1537	0.1903
90	0.400	-0.107	548.0	1.170E+00	1.978E-03	2.450E-03	0.1058	0.1310
32	0.400	0.107	546.2	1.131E+00	1.906E-03	2.358E-03	0.1019	0.1261
52	0.400	0.250	549.2	1.464E+00	2.479E-03	3.073E-03	0.1326	0.1643
91	0.425	0.061	548.6	1.113E+00	1.882E-03	2.332E-03	0.1007	0.1247
92	0.425	0.178	546.5	1.311E+00	2.211E-03	2.736E-03	0.1182	0.1463
93	0.500	-0.107	550.0	9.486E-01	1.609E-03	1.994E-03	0.0860	0.1066
35	0.500	0.107	547.3	9.316E-01	1.573E-03	1.947E-03	0.0841	0.1041
94	0.500	0.178	548.8	1.154E+00	1.953E-03	2.420E-03	0.1044	0.1294
53	0.500	0.250	550.9	1.275E+00	2.166E-03	2.685E-03	0.1158	0.1436
95	0.600	-0.250	562.6	1.543E+00	2.674E-03	3.332E-03	0.1430	0.1782
39	0.600	0.107	563.8	1.193E+00	2.072E-03	2.583E-03	0.1108	0.1381

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 2

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:15:17
DATE RECORDED: 10-JUN-95
TIME RECORDED: 1:40:26
00001127A

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
166	S5R19	G-2	29-0	7.91	125.1	1139.67	30.00	9.98	39.98	-0.05

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
85.3	0.014	0.600	3582	1.346E-05	6.866E-08	7.0251E+05	1.322E+06	1.870E-02	0.476

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	562.6	1.319E+00	2.286E-03	2.848E-03	0.1222	0.1523
98	0.660	-0.107	567.9	3.339E+00	5.839E-03	7.293E-03	0.3123	0.3900
96	0.660	0.107	567.0	3.290E+00	5.745E-03	7.173E-03	0.3073	0.3836
97	0.660	0.250	570.0	3.595E+00	6.311E-03	7.890E-03	0.3375	0.4219
60	0.660	0.400	573.6	3.880E+00	6.855E-03	8.583E-03	0.3666	0.4590
65	0.700	0.500	578.7	3.900E+00	6.952E-03	8.724E-03	0.3718	0.4666
99	0.750	0.178	569.8	3.911E+00	6.863E-03	8.579E-03	0.3670	0.4588
100	0.755	0.400	578.3	4.700E+00	8.373E-03	1.051E-02	0.4478	0.5618
101	0.800	-0.250	572.3	4.407E+00	7.767E-03	9.720E-03	0.4154	0.5198
45	0.800	0.107	569.5	4.242E+00	7.440E-03	9.299E-03	0.3979	0.4973
56	0.800	0.250	572.2	4.401E+00	7.755E-03	9.704E-03	0.4147	0.5190
66	0.800	0.500	582.1	3.651E+00	6.549E-03	8.232E-03	0.3503	0.4402
70	0.800	0.600	584.5	3.221E+00	5.802E-03	7.301E-03	0.3103	0.3905
75	0.800	0.750	590.6	3.178E+00	5.788E-03	7.303E-03	0.3095	0.3906
102	0.886	0.732	588.3	4.025E+00	7.301E-03	9.203E-03	0.3904	0.4922
103	0.900	-0.107	568.4	3.277E+00	5.737E-03	7.167E-03	0.3068	0.3833
57	0.900	0.250	575.7	3.536E+00	6.270E-03	7.858E-03	0.3353	0.4202

RUN 166

CALSPAN CORP/AEDC OPERATIONS
VON KARMAN GAS DYNAMICS FACILITY
ARNOLD AIR FORCE BASE, TENNESSEE
ORBITER BOUNDARY LAYER
JOB NUMBER: 2573
PAGE 1

DATE COMPUTED: 19-JUL-95
TIME COMPUTED: 06:15:20
DATE RECORDED: 10-JUN-95
TIME RECORDED: 1:48:13
00001127I

RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA-SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
167	S5R21	G-2	29-O	7.91	100.0	1039.67	30.00	9.99	39.99	-0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
77.6	0.011	0.482	3415	1.190E-05	6.247E-08	6.5054E+05	1.224E+06	1.649E-02	0.523

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
3	0.040	0.000	568.5	2.409E+00	5.113E-03	6.561E-03	0.3102	0.3980
6	0.060	0.000	564.5	1.798E+00	3.785E-03	4.845E-03	0.2296	0.2939
7	0.080	0.000	560.0	1.501E+00	3.130E-03	3.996E-03	0.1898	0.2424
8	0.100	0.000	559.0	1.426E+00	2.966E-03	3.785E-03	0.1799	0.2296
10	0.150	0.000	556.5	1.100E+00	2.276E-03	2.900E-03	0.1381	0.1759
16	0.192	0.000	551.5	1.127E+00	2.309E-03	2.934E-03	0.1401	0.1780
20	0.250	0.000	554.6	2.957E+00	6.096E-03	7.759E-03	0.3698	0.4707
23	0.300	0.000	552.1	3.709E+00	7.607E-03	9.669E-03	0.4615	0.5865
30	0.350	0.000	552.8	2.908E+00	5.974E-03	7.596E-03	0.3624	0.4608
31	0.400	0.000	550.0	2.925E+00	5.973E-03	7.583E-03	0.3623	0.4600
33	0.450	0.000	553.7	3.758E+00	7.733E-03	9.838E-03	0.4691	0.5968
34	0.500	0.000	561.1	5.695E+00	1.190E-02	1.520E-02	0.7219	0.9223
37	0.550	0.000	569.7	8.352E+00	1.777E-02	2.282E-02	1.0781	1.3844
38	0.600	0.000	574.5	9.149E+00	1.967E-02	2.533E-02	1.1930	1.5363
40	0.650	0.000	573.5	7.712E+00	1.654E-02	2.129E-02	1.0035	1.2915
41	0.700	0.000	571.4	5.429E+00	1.160E-02	1.490E-02	0.7034	0.9041
43	0.750	0.000	569.4	3.708E+00	7.885E-03	1.012E-02	0.4783	0.6141
46	0.850	0.000	569.5	2.035E+00	4.329E-03	5.558E-03	0.2626	0.3371
49	0.950	0.000	561.4	7.885E-01	1.649E-03	2.107E-03	0.1000	0.1278
86	0.125	0.055	560.2	1.391E+00	2.901E-03	3.704E-03	0.1759	0.2247
11	0.150	0.091	554.1	1.278E+00	2.632E-03	3.350E-03	0.1597	0.2032
17	0.192	0.107	554.8	1.228E+00	2.533E-03	3.224E-03	0.1536	0.1956
87	0.300	-0.106	551.3	3.622E+00	7.416E-03	9.421E-03	0.4499	0.5715
88	0.300	0.061	555.0	3.597E+00	7.422E-03	9.449E-03	0.4502	0.5732
89	0.300	0.122	554.6	3.731E+00	7.690E-03	9.788E-03	0.4665	0.5938
24	0.300	0.160	551.3	3.451E+00	7.066E-03	8.977E-03	0.4286	0.5445
25	0.300	0.221	551.0	3.166E+00	6.479E-03	8.230E-03	0.3930	0.4992
90	0.400	-0.107	552.5	2.891E+00	5.935E-03	7.545E-03	0.3600	0.4577
32	0.400	0.107	550.6	2.809E+00	5.745E-03	7.296E-03	0.3485	0.4426
52	0.400	0.250	552.3	2.471E+00	5.069E-03	6.444E-03	0.3075	0.3909
91	0.425	0.091	553.8	3.137E+00	6.457E-03	8.215E-03	0.3917	0.4983
92	0.425	0.178	550.7	2.955E+00	6.042E-03	7.674E-03	0.3665	0.4655
93	0.500	-0.107	561.8	6.182E+00	1.294E-02	1.653E-02	0.7848	1.0030
35	0.500	0.107	558.1	5.539E+00	1.150E-02	1.467E-02	0.6977	0.8898
94	0.500	0.178	559.1	5.516E+00	1.148E-02	1.465E-02	0.6963	0.8886
53	0.500	0.250	560.3	5.216E+00	1.088E-02	1.390E-02	0.6601	0.8429
95	0.600	-0.250	571.1	8.302E+00	1.772E-02	2.277E-02	1.0747	1.3812
39	0.600	0.107	574.7	9.207E+00	1.980E-02	2.550E-02	1.2011	1.5470

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RUN	SERIES	ELEMENT	MODEL	MACH	PT (PSIA)	TT (DEGR)	ALPHA-PREBEND (DEG)	ALPHA SECTOR (DEG)	ALPHA-MODEL (DEG)	ROLL-SECTOR (DEG)
167	S5R21	G-2	29-O	7.91	100.0	1039.67	30.00	9.99	39.99	-0.04

T (DEGR)	P (PSIA)	Q (PSIA)	V (FT/SEC)	RHO (SLUGS/FT3)	MU (LBF-SEC/FT2)	RE/FT (FT-1)	REL (L=1.882FT)	HREF (RN=0.0175FT)	TW/TT
77.6	0.011	0.482	3415.	1.190E-05	6.247E-08	6.5054E+05	1.224E+06	1.649E-02	0.523

CO-AXIAL DATA

GAGE NO.	X/L	2Y/B	TW (DEGR)	QDOT (BTU/FT2-SEC)	H(TT) (BTU/FT2-SEC-R)	H(.9TT) (BTU/FT2-SEC-R)	H(TT)/ HREF	H(.9TT)/ HREF
54	0.600	0.250	573.5	9.449E+00	2.027E-02	2.609E-02	1.2296	1.5826
98	0.660	-0.107	572.7	6.899E+00	1.477E-02	1.901E-02	0.8962	1.1530
96	0.660	0.107	572.4	7.370E+00	1.577E-02	2.028E-02	0.9567	1.2305
97	0.660	0.250	575.3	7.656E+00	1.649E-02	2.124E-02	1.0001	1.2886
60	0.660	0.400	578.8	7.850E+00	1.703E-02	2.199E-02	1.0332	1.3341
65	0.700	0.500	580.9	5.851E+00	1.275E-02	1.649E-02	0.7737	1.0004
99	0.750	0.178	571.1	3.885E+00	8.291E-03	1.066E-02	0.5029	0.6463
100	0.755	0.400	577.2	3.895E+00	8.423E-03	1.087E-02	0.5110	0.6591
101	0.800	-0.250	569.8	2.845E+00	6.055E-03	7.775E-03	0.3673	0.4716
45	0.800	0.107	568.3	2.789E+00	5.917E-03	7.592E-03	0.3589	0.4605
56	0.800	0.250	570.6	2.974E+00	6.339E-03	8.145E-03	0.3846	0.4941
66	0.800	0.500	578.9	2.860E+00	6.207E-03	8.015E-03	0.3765	0.4862
70	0.800	0.600	580.2	2.812E+00	6.119E-03	7.908E-03	0.3712	0.4797
75	0.800	0.750	582.6	2.482E+00	5.431E-03	7.030E-03	0.3294	0.4264
102	0.886	0.732	573.9	1.147E+00	2.463E-03	3.170E-03	0.1494	0.1923
103	0.900	-0.107	563.4	1.203E+00	2.525E-03	3.230E-03	0.1532	0.1960
57	0.900	0.250	570.0	1.340E+00	2.853E-03	3.664E-03	0.1730	0.2222

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13. ABSTRACT *(Maximum 200 words)*

Several Space Shuttle Orbiter flights have experienced earlier than expected laminar to turbulent boundary layer transition. Such an experience has often been asymmetric in nature, which results in unplanned control requirements and often higher localized heating. It was typically noted that evidence of roughness elements, such as thermal protection system (TPS) gap fillers protruding above the surrounding surface, was generally a common factor for the flights experiencing the unexpected early transition. We conducted a test in the Arnold Engineering and Development Center's Von Karman Facility Tunnel B to determine the effect of specific discrete roughness element heights and locations on the transition of the Orbiter boundary layer from laminar to turbulent at various Reynolds numbers. We limited angle of attack to 35 and 40 degrees, which are most representative of the flight experience. The major objectives of the test were to verify that off-design changes, such as protuberances, to the TPS could cause roughness-induced early transition consistent with flight experience and to determine which sizes and locations of roughness elements would cause early transition. Test results indicate that, while a single roughness element on the windward centerline near the nose region could induce early transition over most of the windward surface, a single roughness element off to the side of the windward centerline could result in a turbulent boundary layer occurring on a major portion of one side of the windward surface with the other side remaining laminar. Both increasing the height of the roughness element on the windward centerline and cooling the model resulted in transition at lower freestream Reynolds numbers.

14. SUBJECT TERMS

laminar flow, laminar boundary layer, boundary layer transition, turbulent boundary layer, surface roughness effects

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